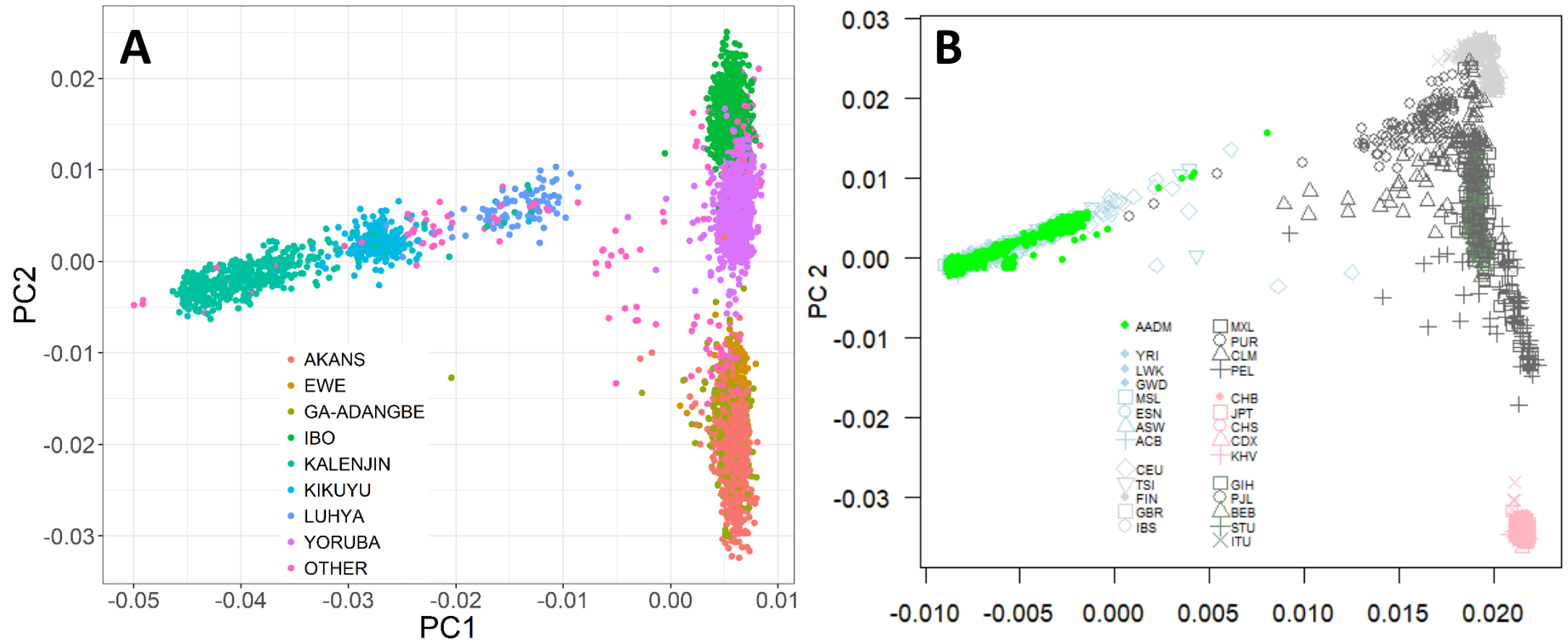


## Additional File 2

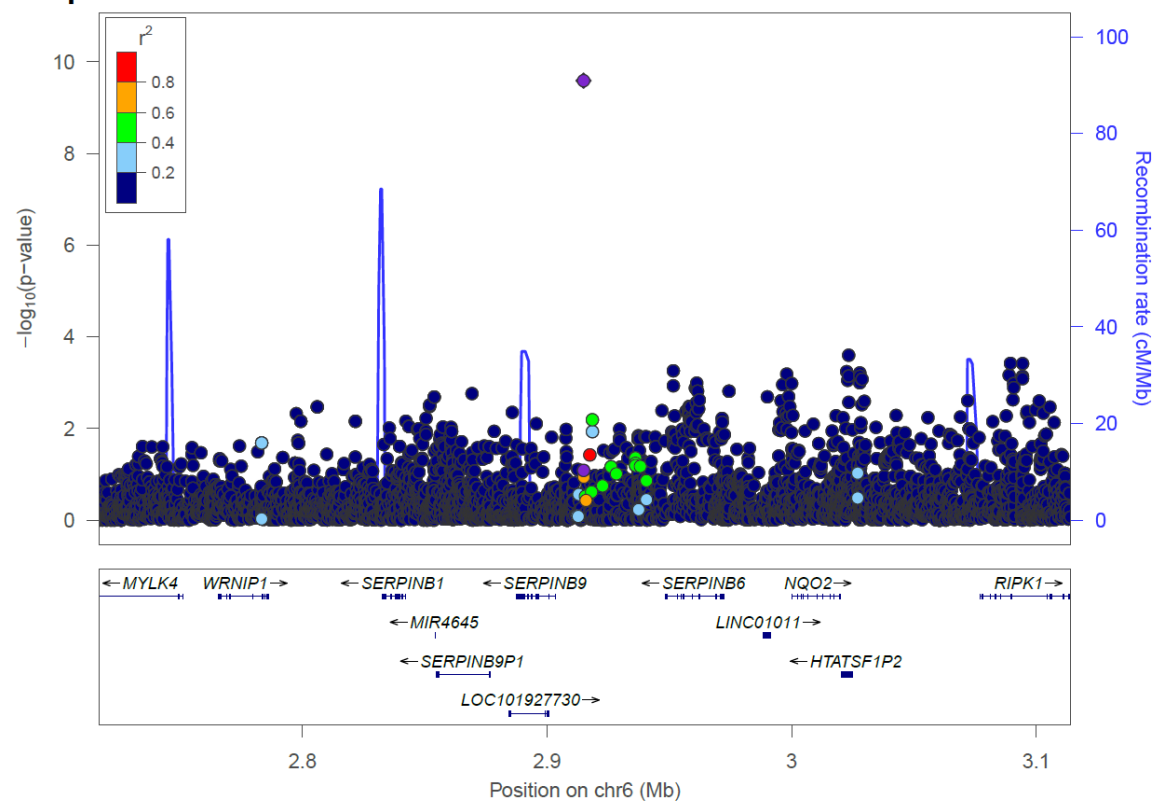
**Fig S1:** Principal Components 1 and 2 in continental Africans from the AADM study (A) and for the AADM study combined with 1000 Genomes Project populations (B), colored by ethnic group



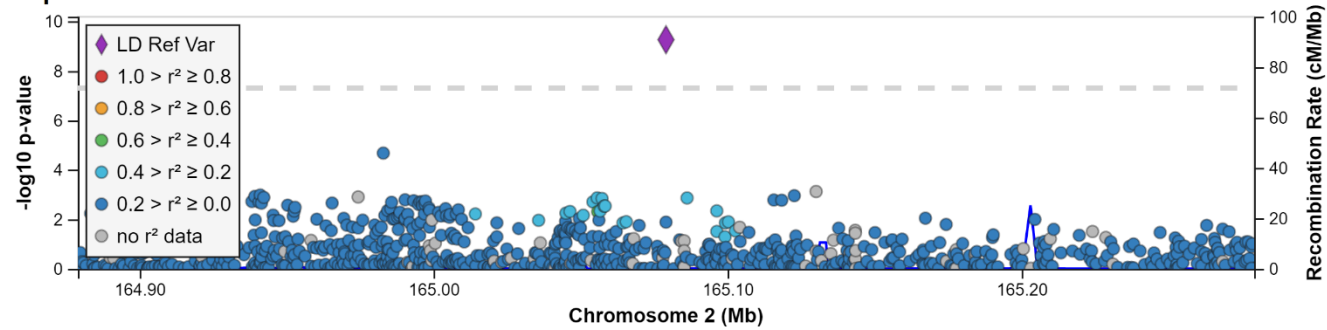
YRI - Yoruba in Ibadan, Nigeria; LWK - Luhya in Webuye, Kenya; GWD - Gambian in Western Divisions in the Gambia; MSL - Mende in Sierra Leone; ESN - Esan in Nigeria; ASW - Americans of African Ancestry in SW USA; ACB - African Caribbeans in Barbados; CEU - Utah Residents (CEPH) with Northern and Western European Ancestry; TSI - Toscani in Italia; FIN - Finnish in Finland; GBR - British in England and Scotland; IBS - Iberian Population in Spain; MXL - Mexican Ancestry from Los Angeles USA; PUR - Puerto Ricans from Puerto Rico; CLM - Colombians from Medellin, Colombia; PEL - Peruvians from Lima, Peru; CHB - Han Chinese in Beijing, China; JPT - Japanese in Tokyo, Japan; CHS - Southern Han Chinese; CDX - Chinese Dai in Xishuangbanna, China; KHV - Kinh in Ho Chi Minh City, Vietnam; GIH - Gujarati Indian from Houston, Texas; PIL - Punjabi from Lahore, Pakistan; BEB - Bengali from Bangladesh; STU - Sri Lankan Tamil from the UK; ITU - Indian Telugu from the UK.

**Fig S2:** Regional plots of all loci detected in the base model ( $P\text{-value} < 5 \times 10^{-8}$ ) and all replicated loci from stratified models. Linkage Disequilibrium (LD) information shown was derived from the 1000 Genomes Project AFR reference population. For loci that did not have 1000 Genomes Project AFR reference LD data available (indicated with \*), LD data were derived from the AADM study.

**Adipsin - Base Model - rs199890456\***



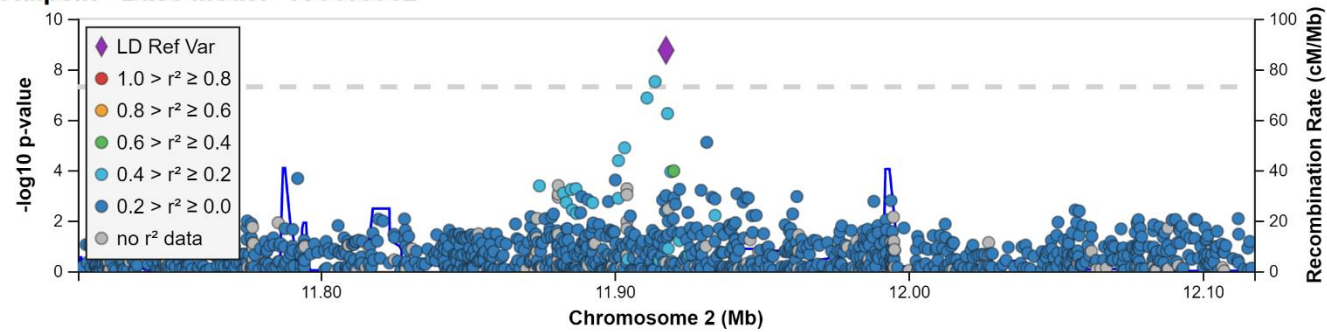
### Adipsin - Base Model - rs201751833



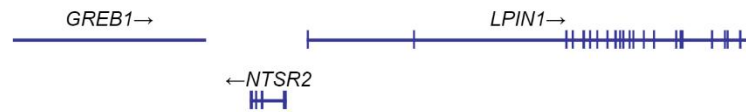
#### Hits in GWAS Catalog



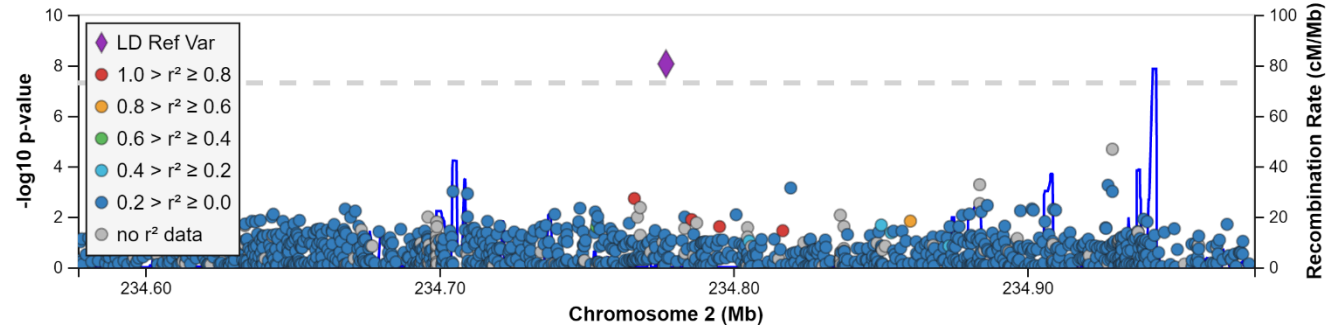
### Adipsin - Base Model - rs1469952



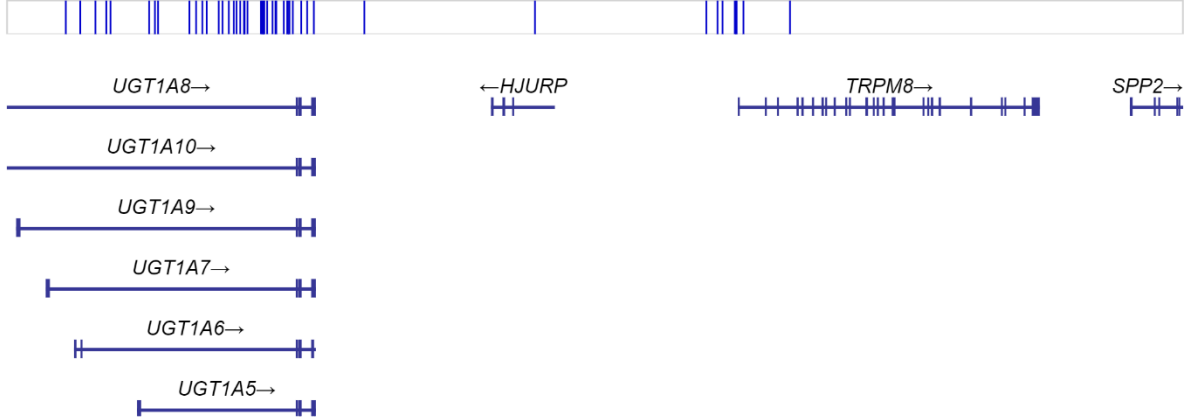
#### Hits in GWAS Catalog



Adipsin - Base Model - rs115100304

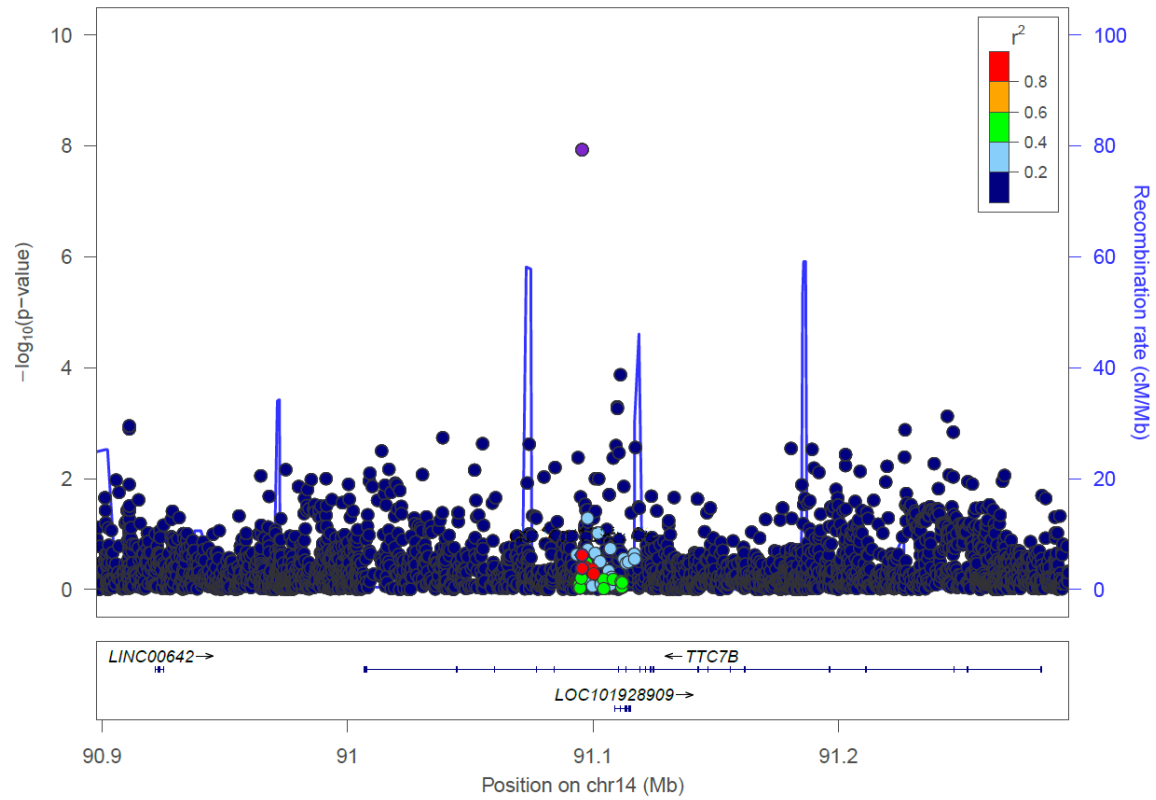


Hits in GWAS Catalog

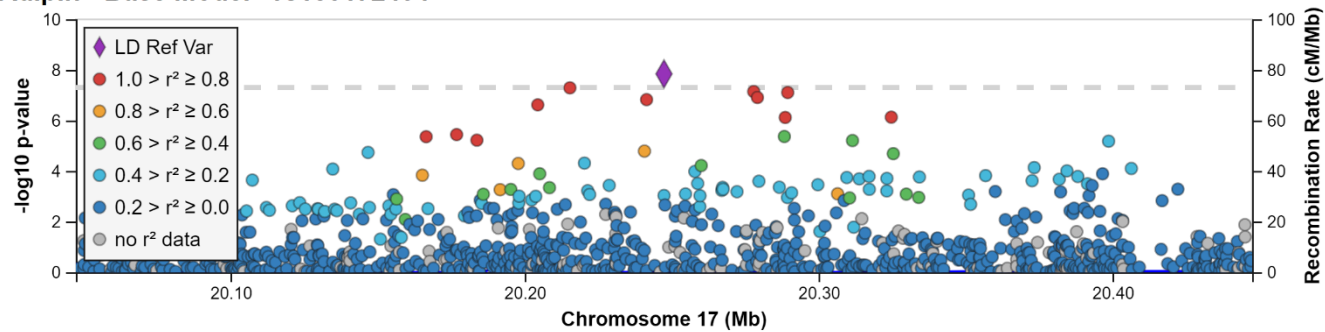




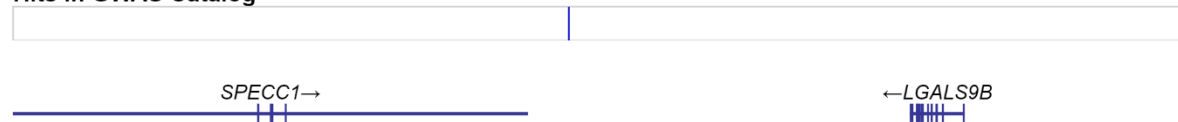
# Adipsin - Base Model - rs34061523\*



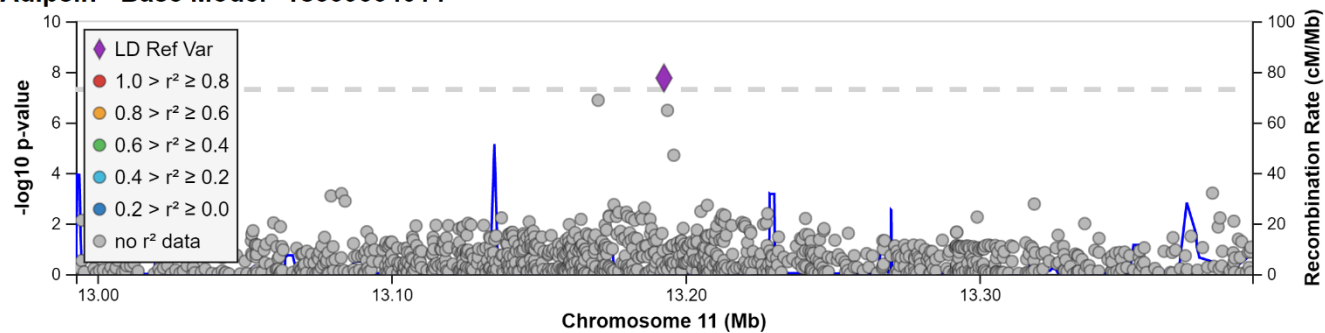
### Adipin - Base Model - rs183172404



#### Hits in GWAS Catalog



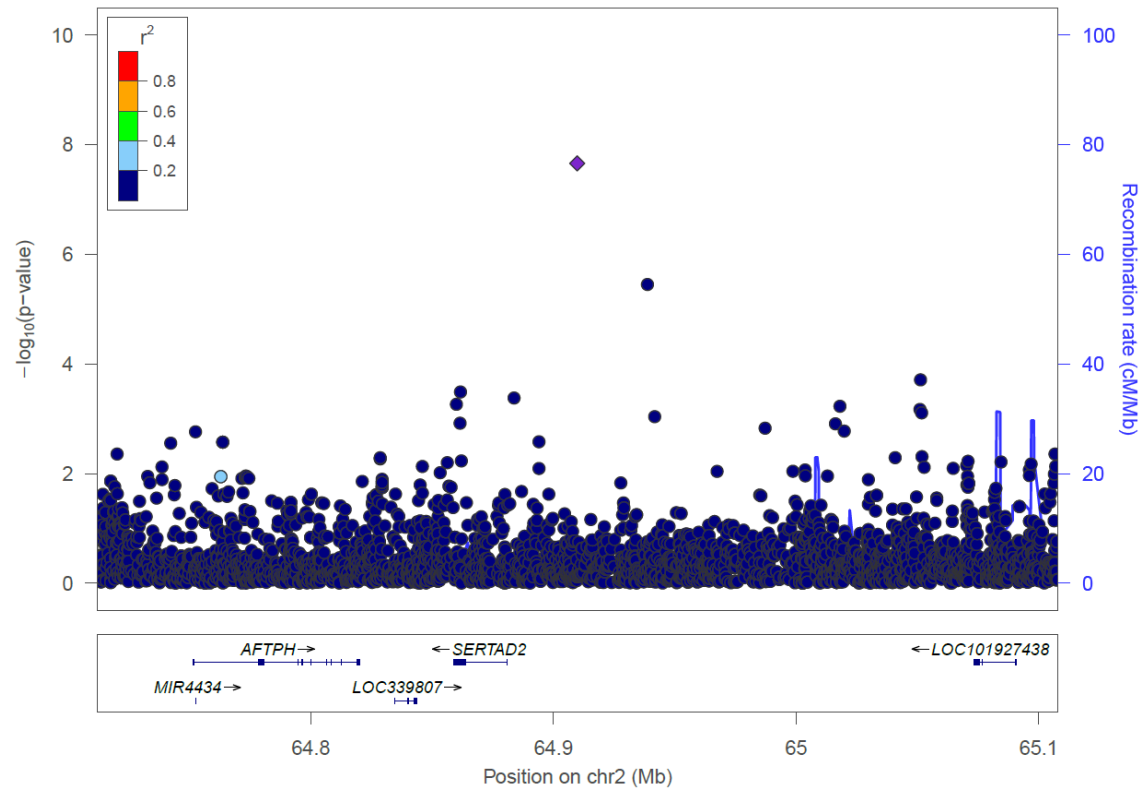
### Adipsin - Base Model - rs539334014



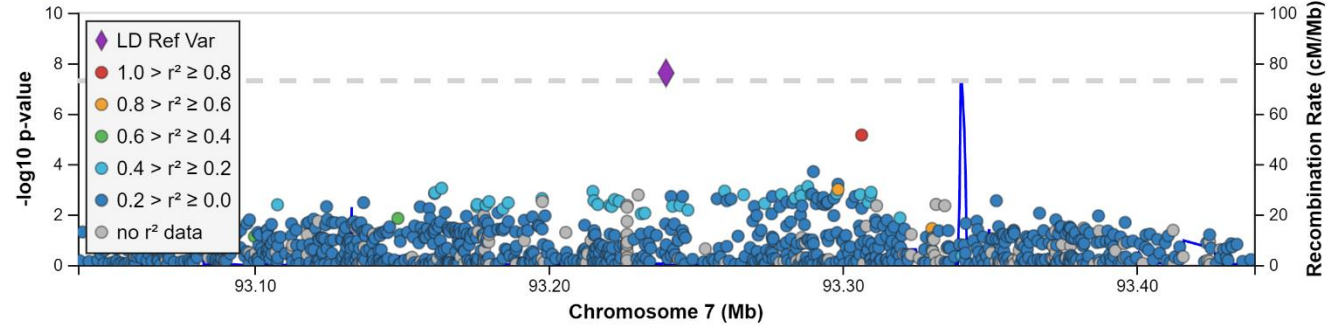
#### Hits in GWAS Catalog



# Adipsin - Base Model - rs79750258\*



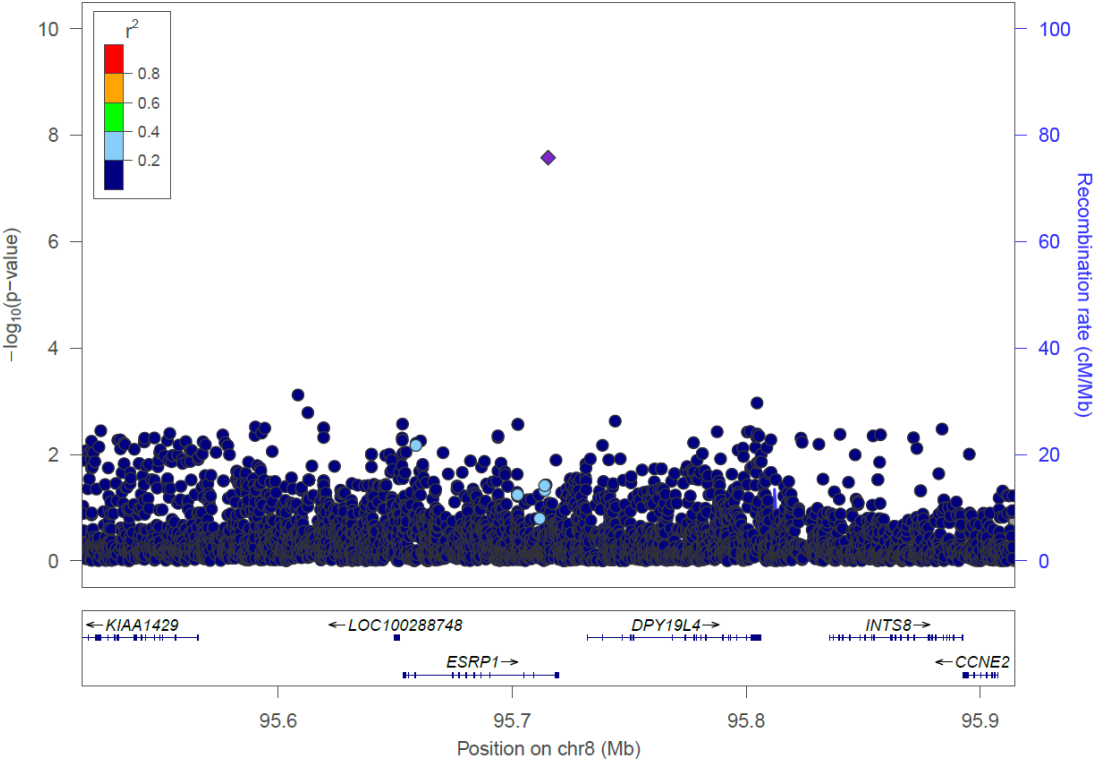
Adipsin - Base Model - rs111651263



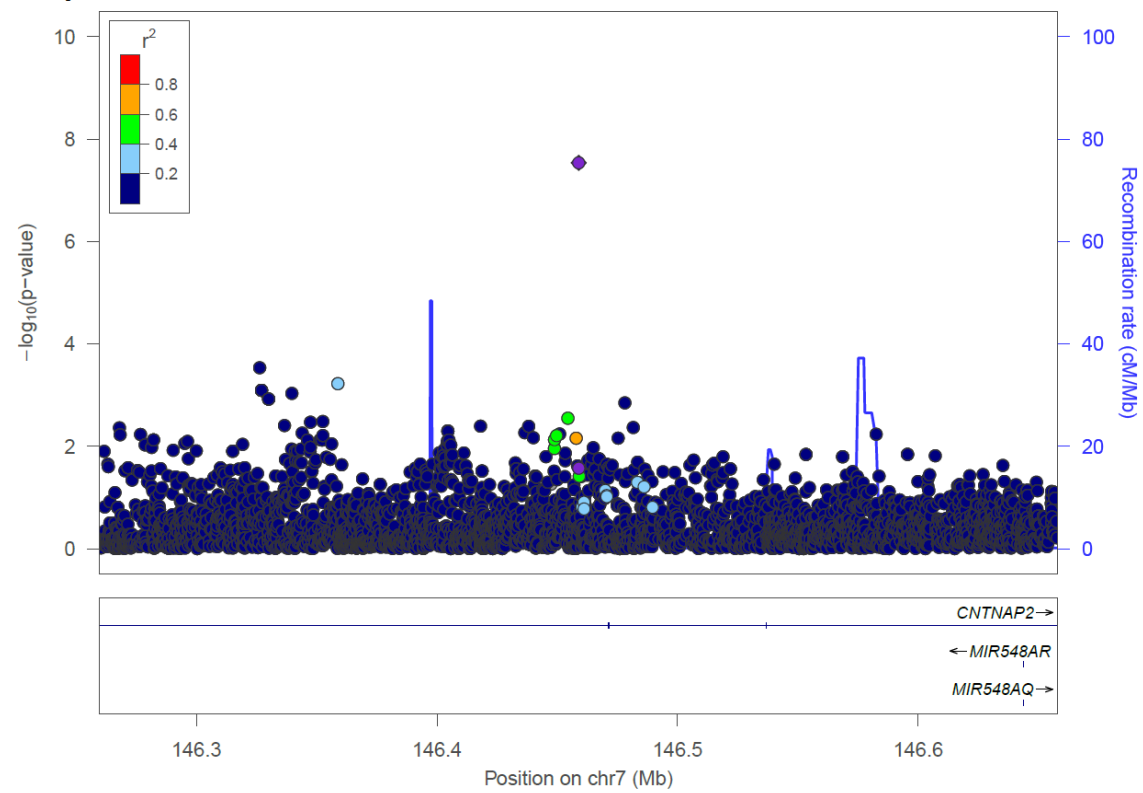
Hits in GWAS Catalog



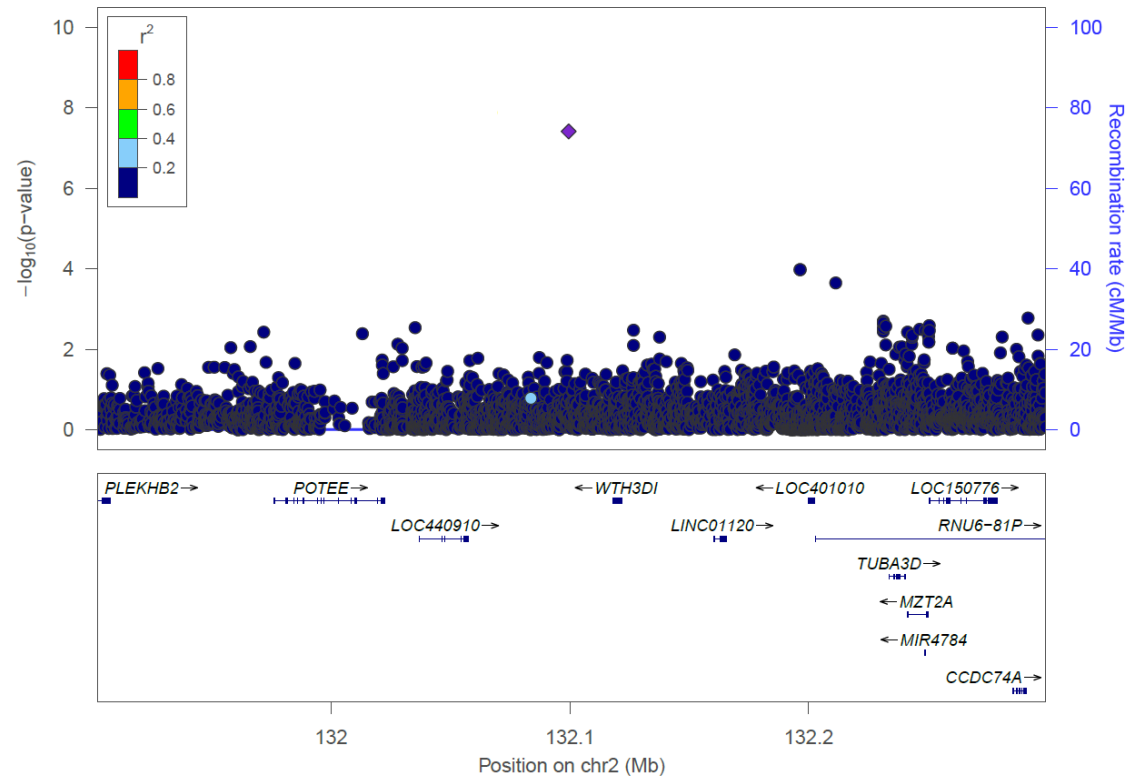
Adipsin - Base Model - rs79024755\*



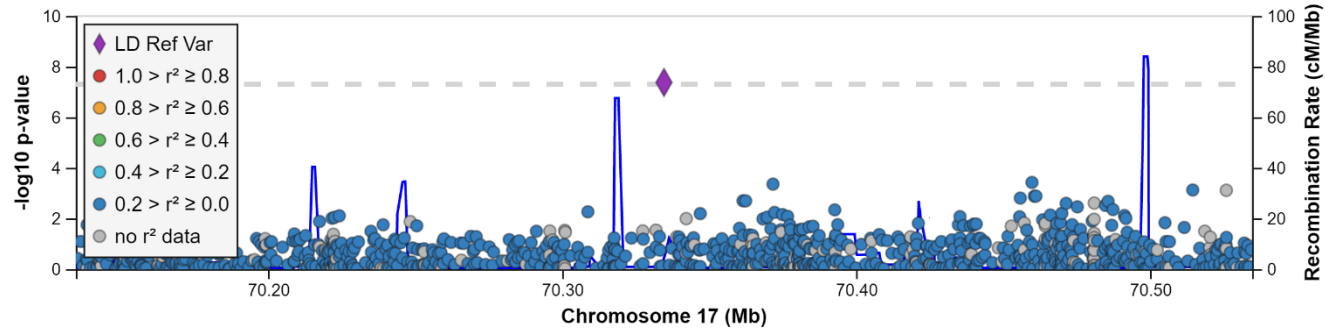
# Adipsin - Base Model - rs113529034\*



# Adipsin - Base Model - rs180913374\*



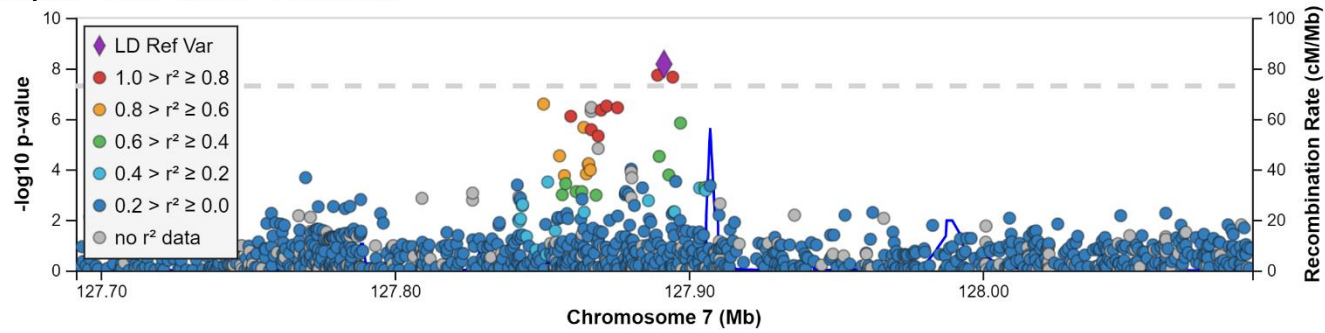
### Adipsin - Base Model - rs145662005



Hits in GWAS Catalog



### Leptin - Base Model - rs28954105

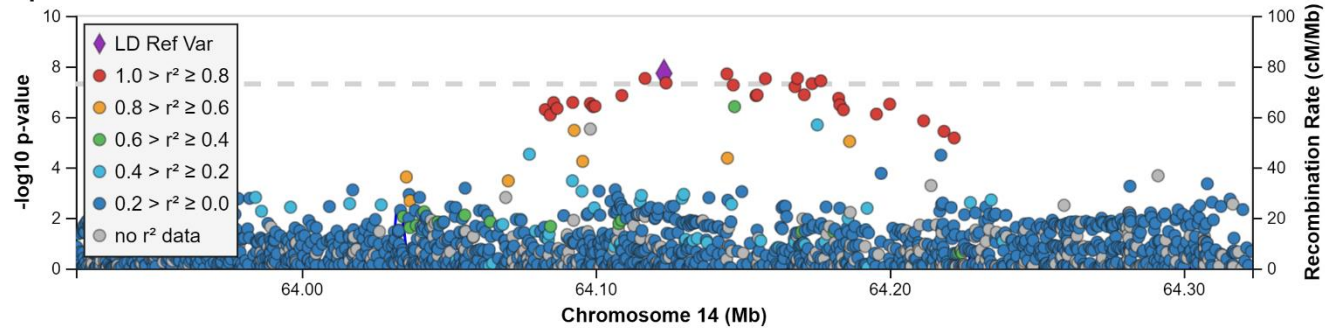


Hits in GWAS Catalog





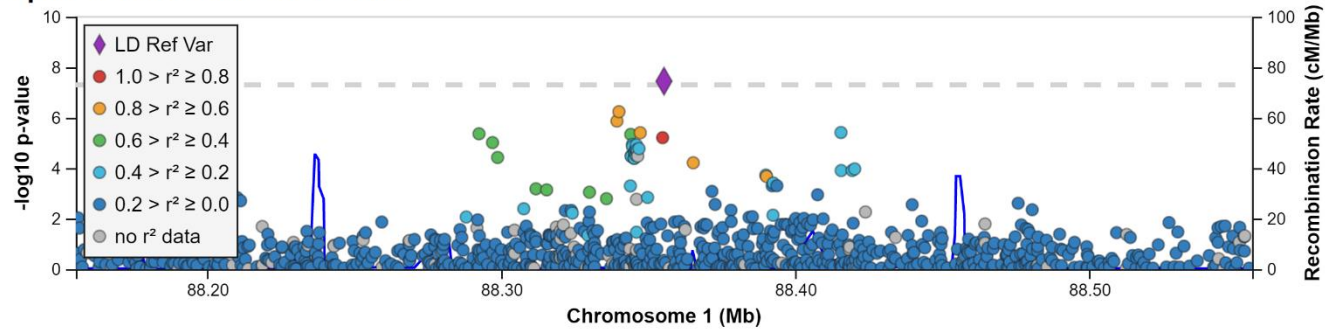
### Leptin - Base Model - rs113453972



#### Hits in GWAS Catalog



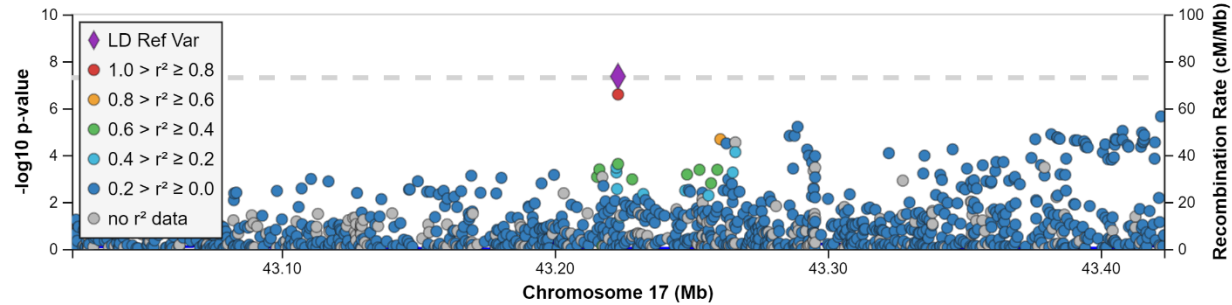
### Leptin - Base Model - rs61258383



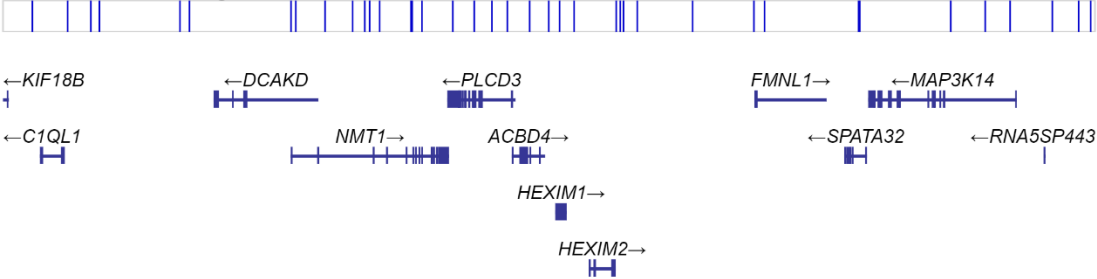
#### Hits in GWAS Catalog



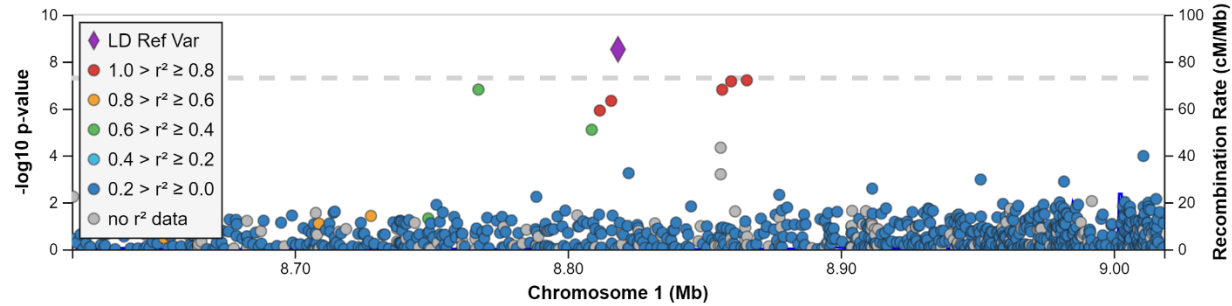
Leptin - Base Model - rs9894577



Hits in GWAS Catalog



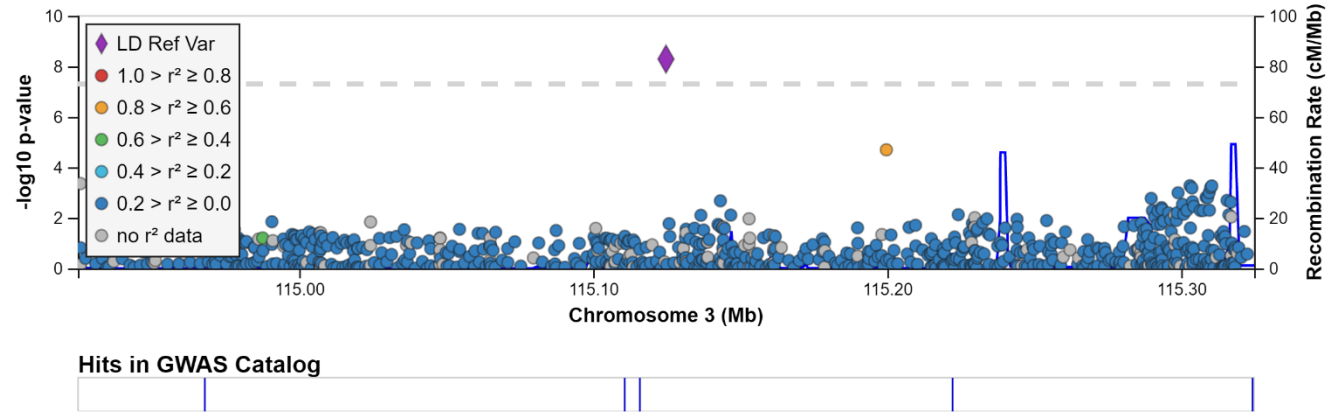
GIP - Base Model - rs12028926



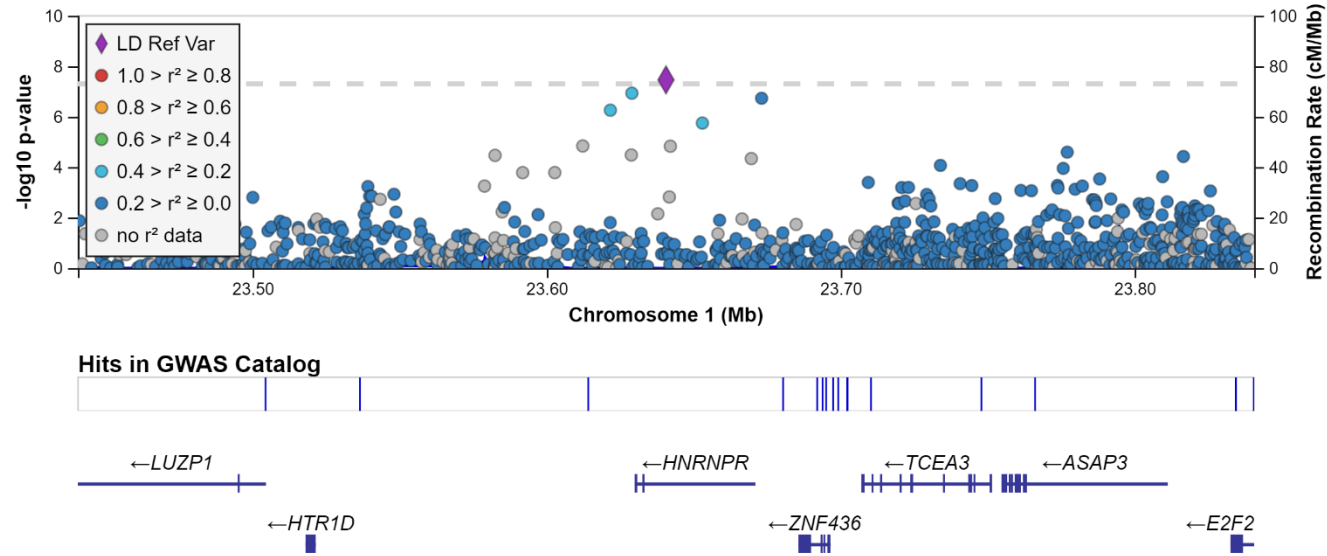
Hits in GWAS Catalog



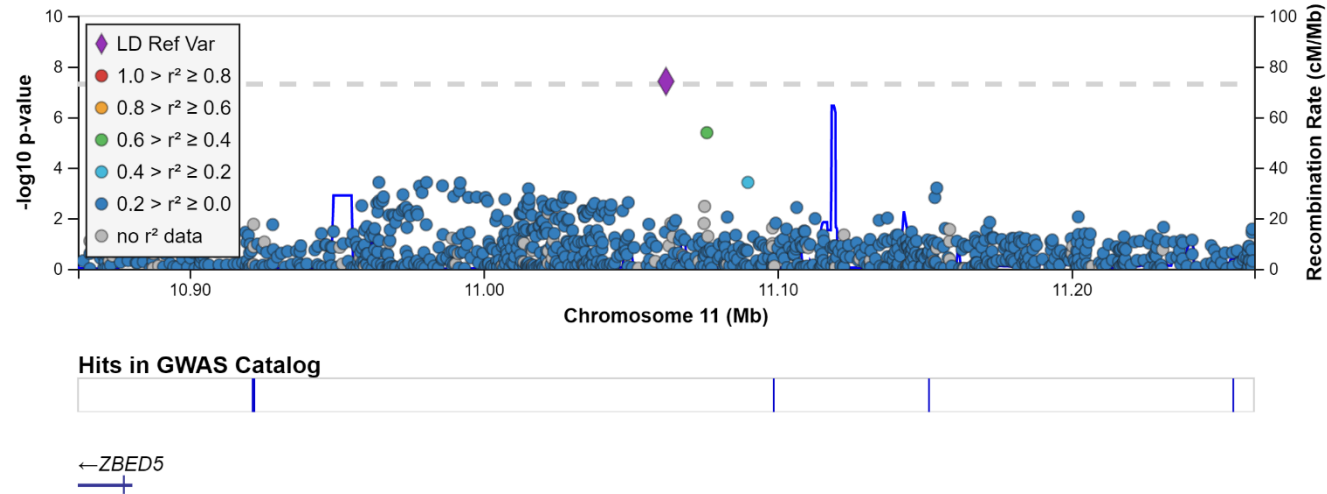
GIP - Base Model - rs62266118



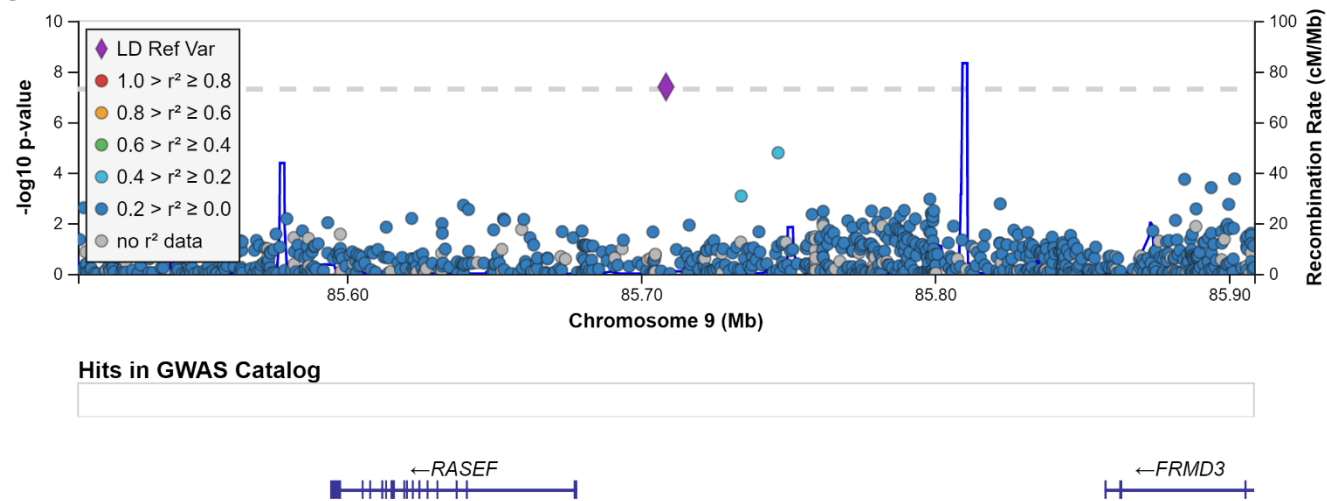
GIP - Base Model - rs17437121



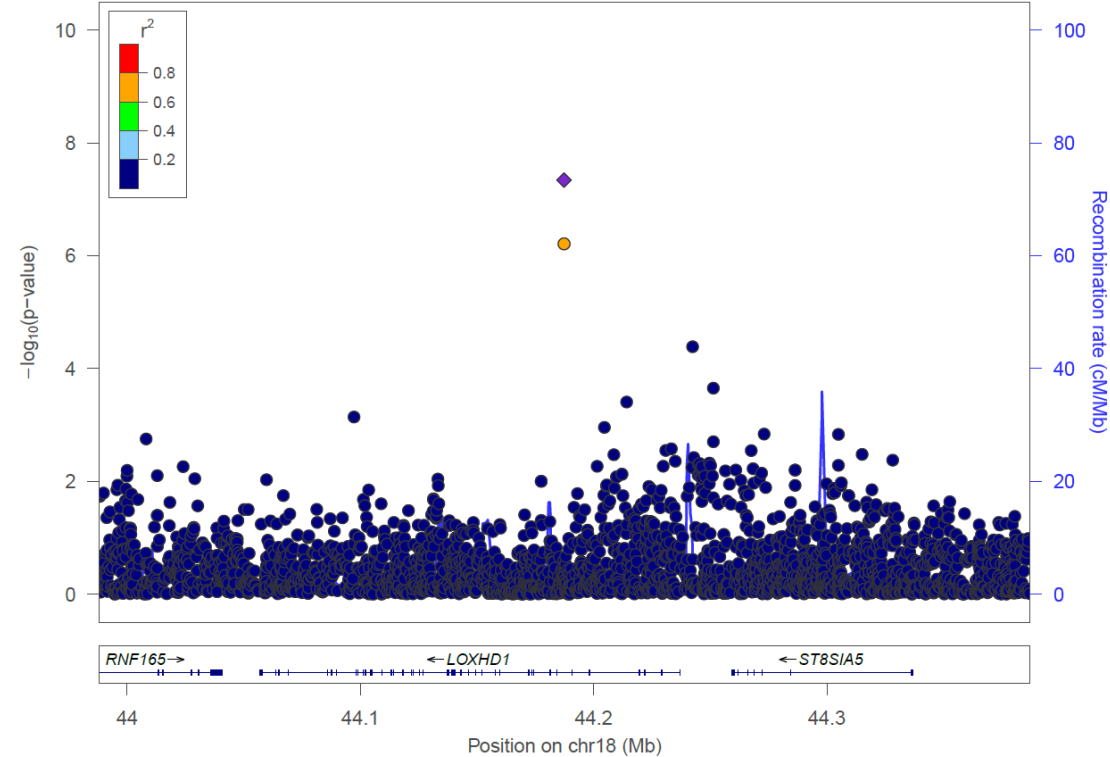
GIP - Base Model - rs17335662



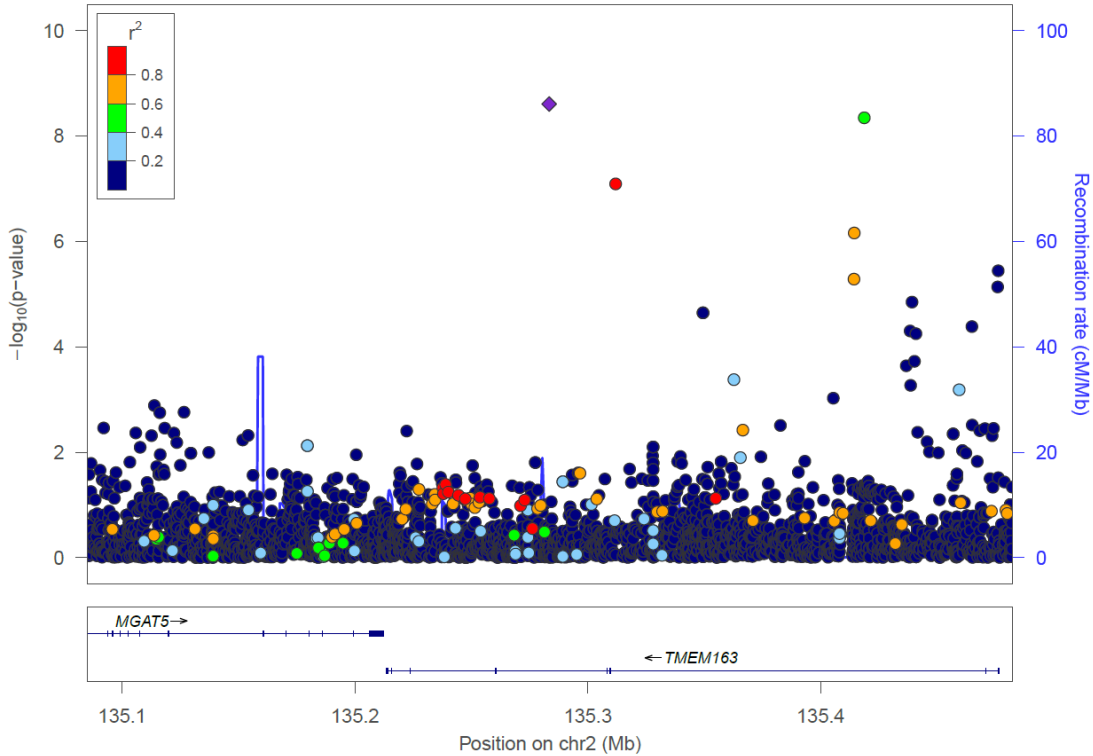
GIP - Base Model - rs182578321



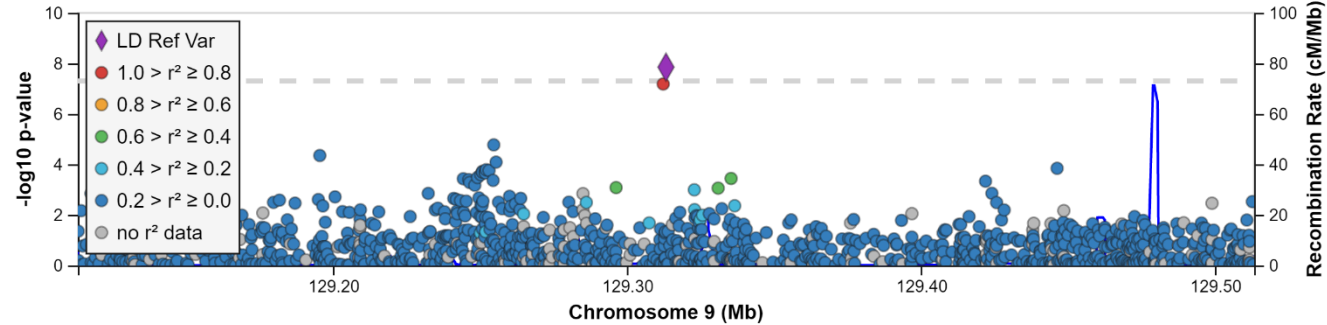
GIP - Base Model - rs988623129\*



GLP-1 - Base Model - rs1355371392\*



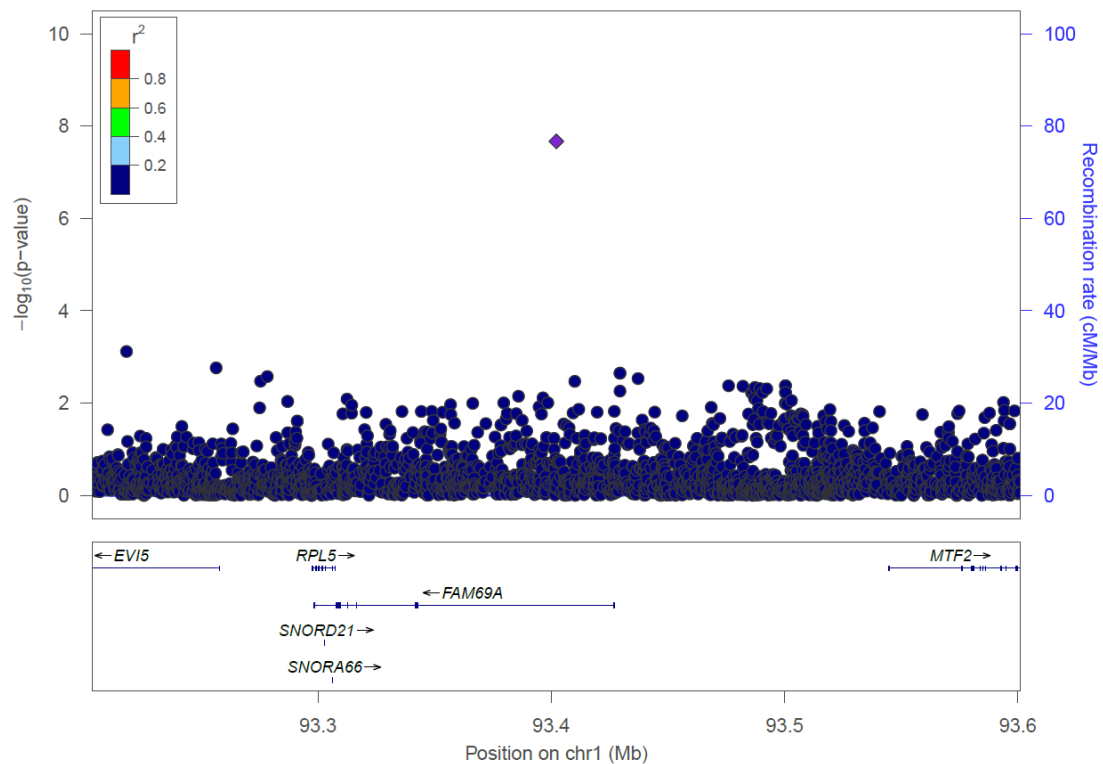
GLP-1 - Base Model - rs73669122



Hits in GWAS Catalog

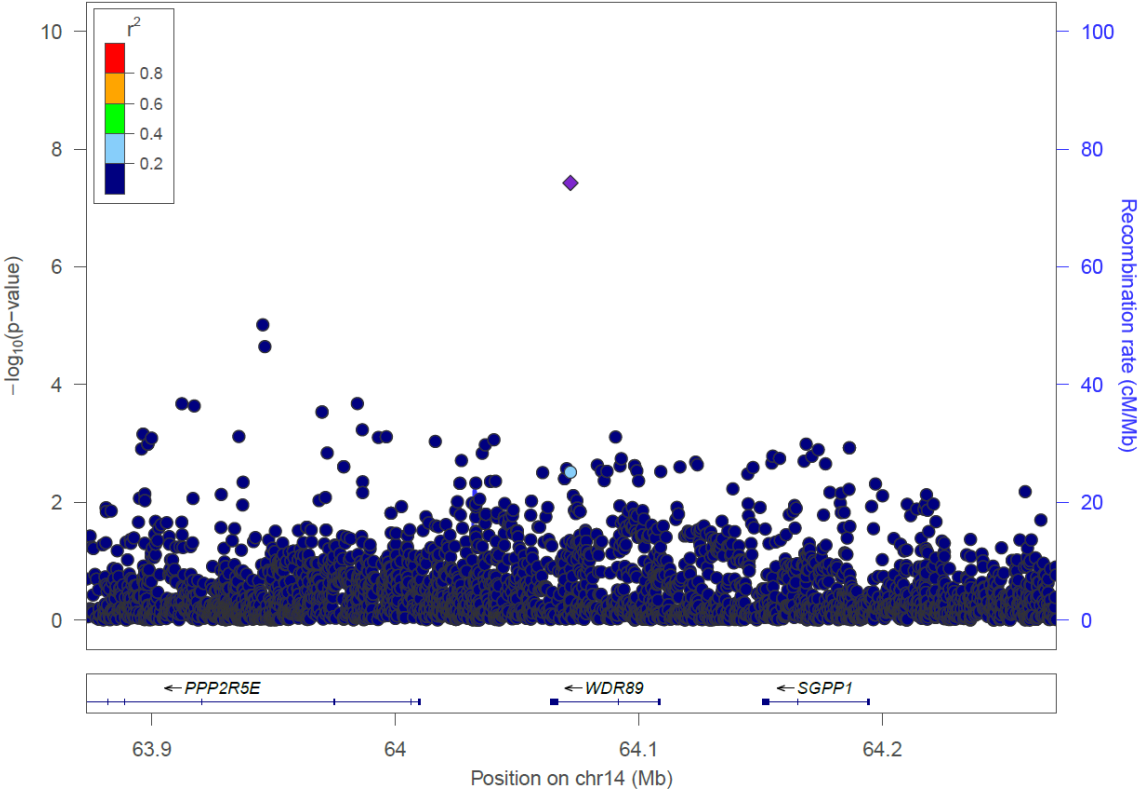


# GLP-1 - Base Model - rs1450571579\*

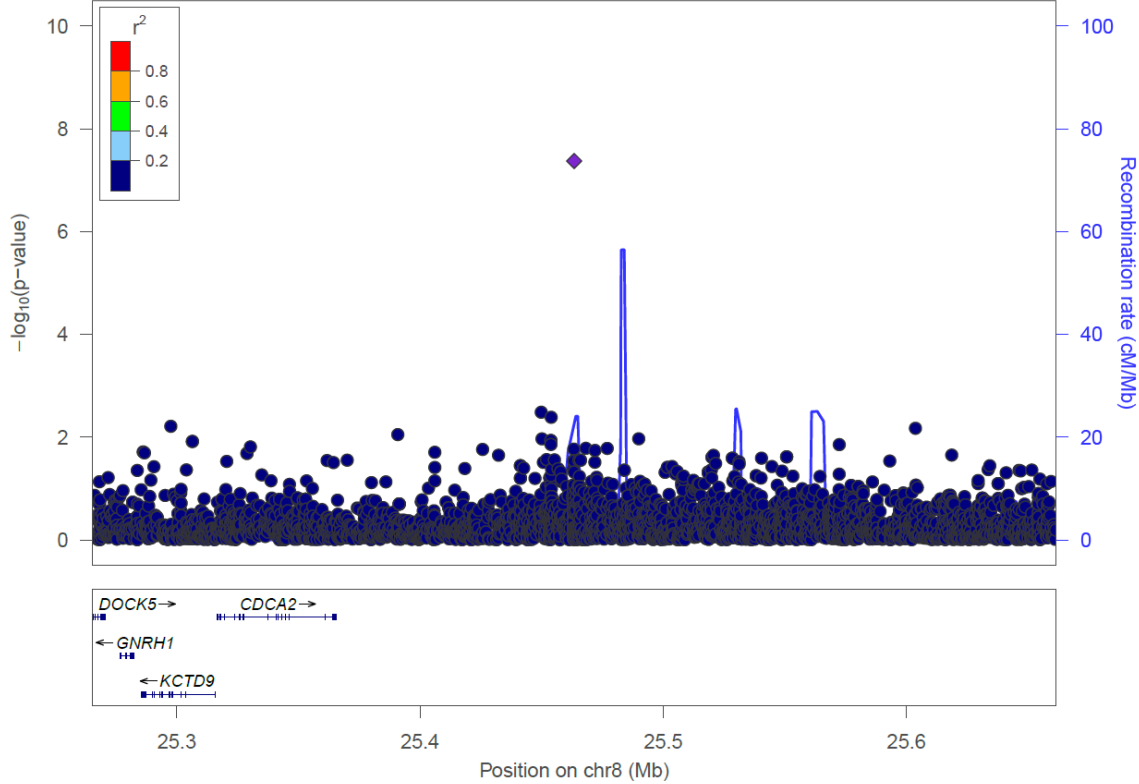




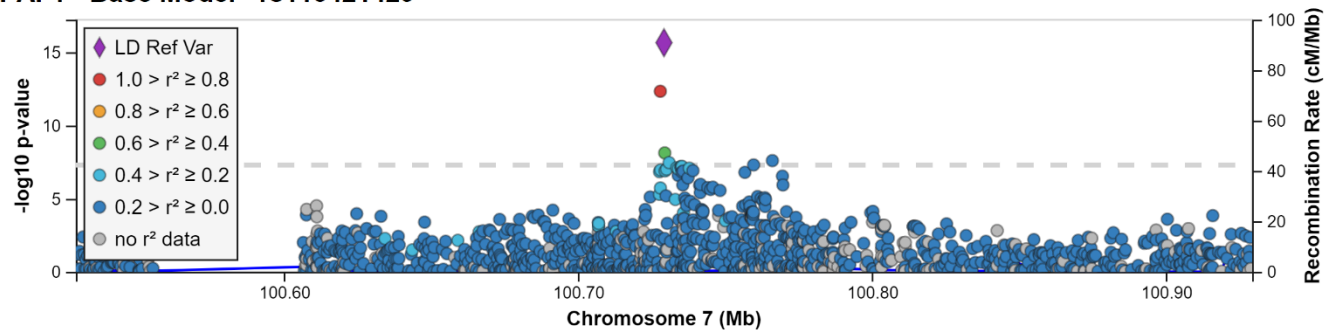
GLP-1 - Base Model - rs1445210817\*



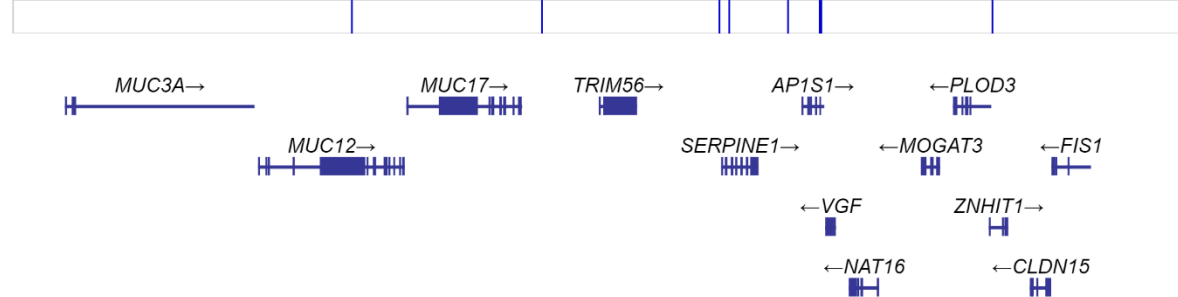
GLP-1 - Base Model - rs372701742\*



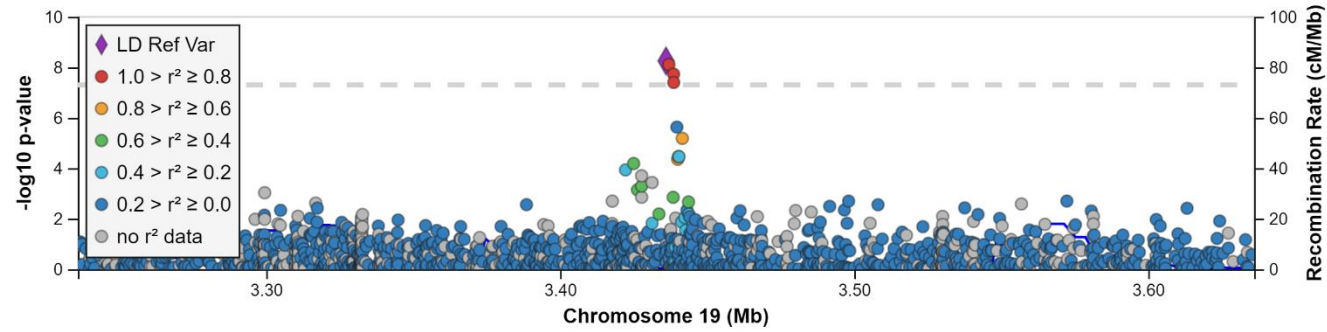
# PAI-1 - Base Model - rs113421429



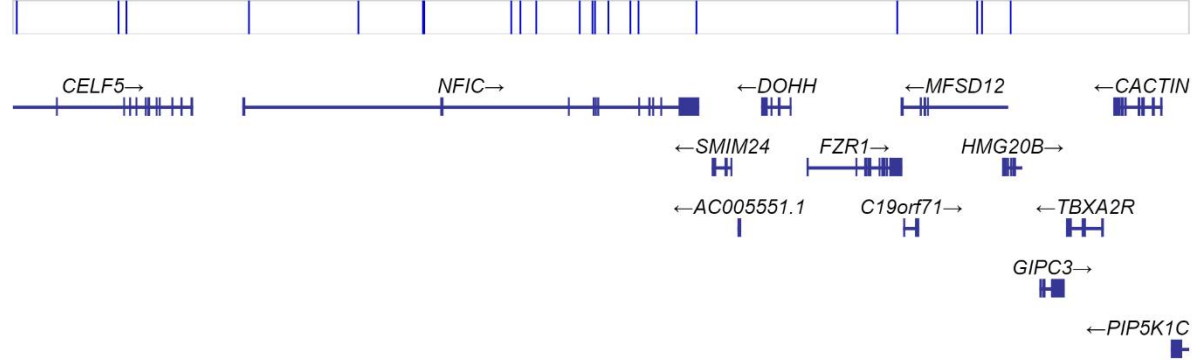
## Hits in GWAS Catalog



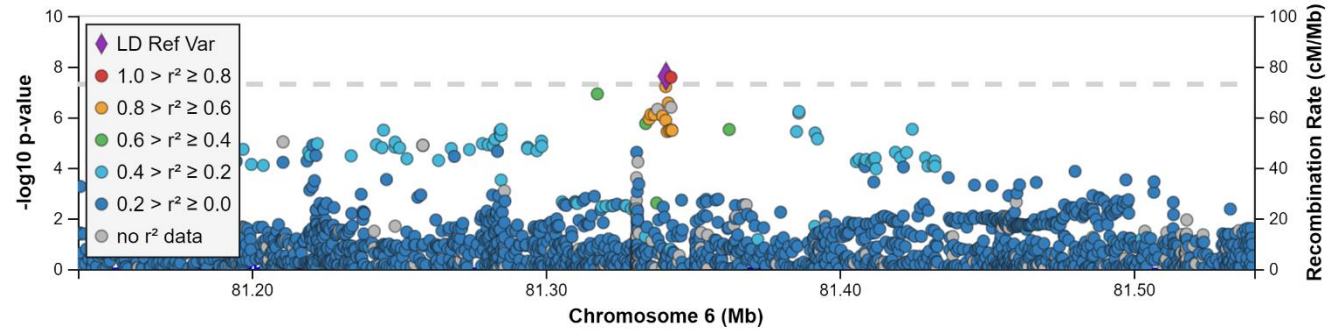
# PAI-1 - Base Model - rs61654751



## Hits in GWAS Catalog



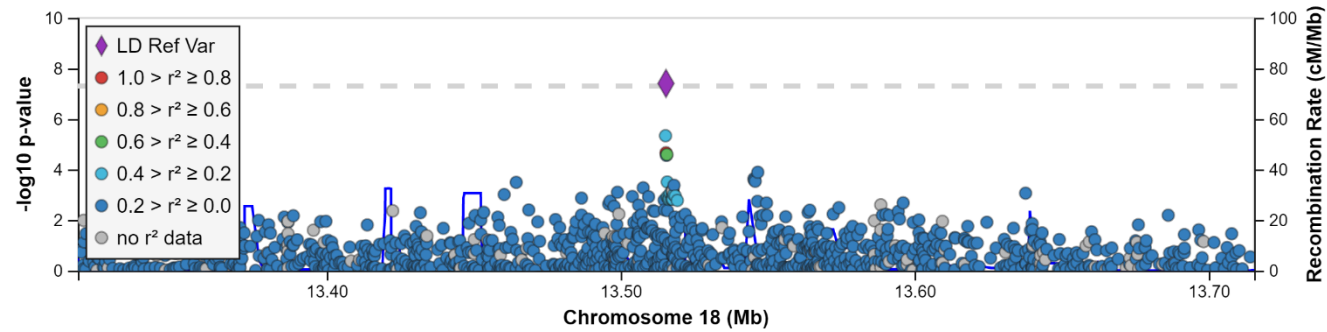
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Hits in GWAS Catalog



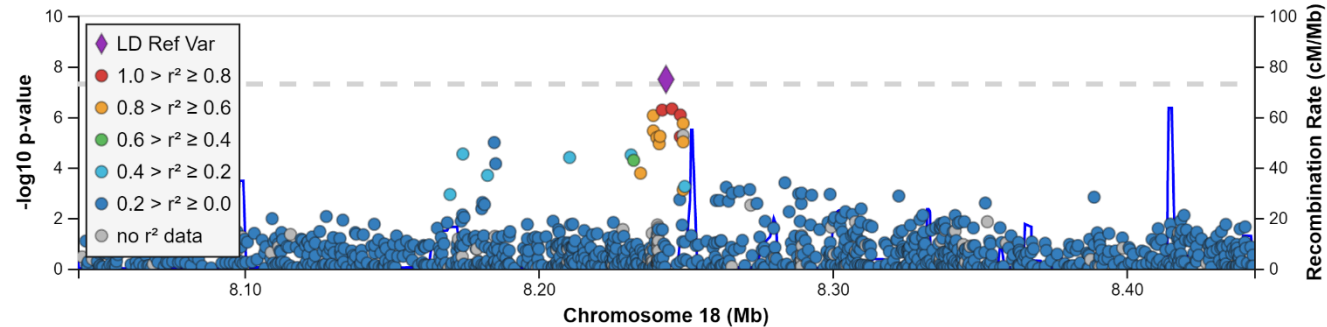
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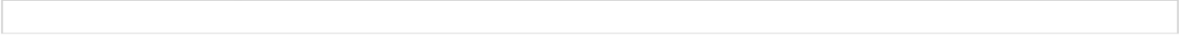
Hits in GWAS Catalog



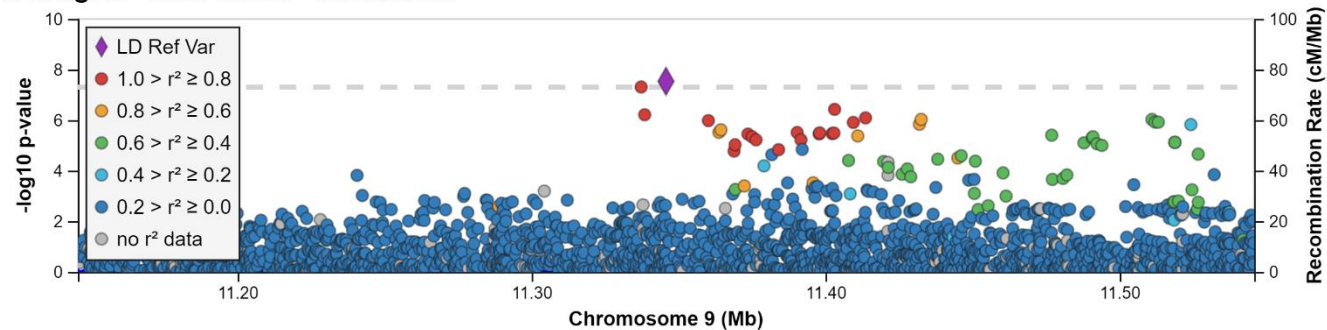
IL-6 - Base Model - rs72911283



Hits in GWAS Catalog



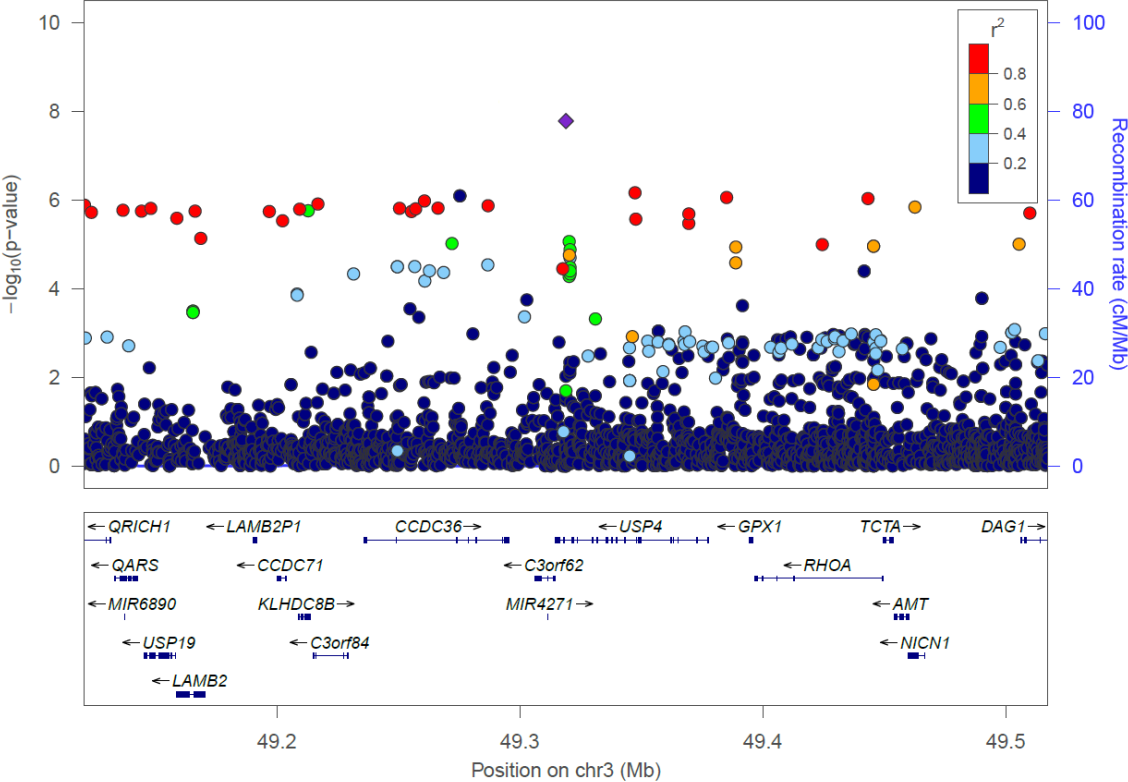
Glucagon - Base Model - rs10809430



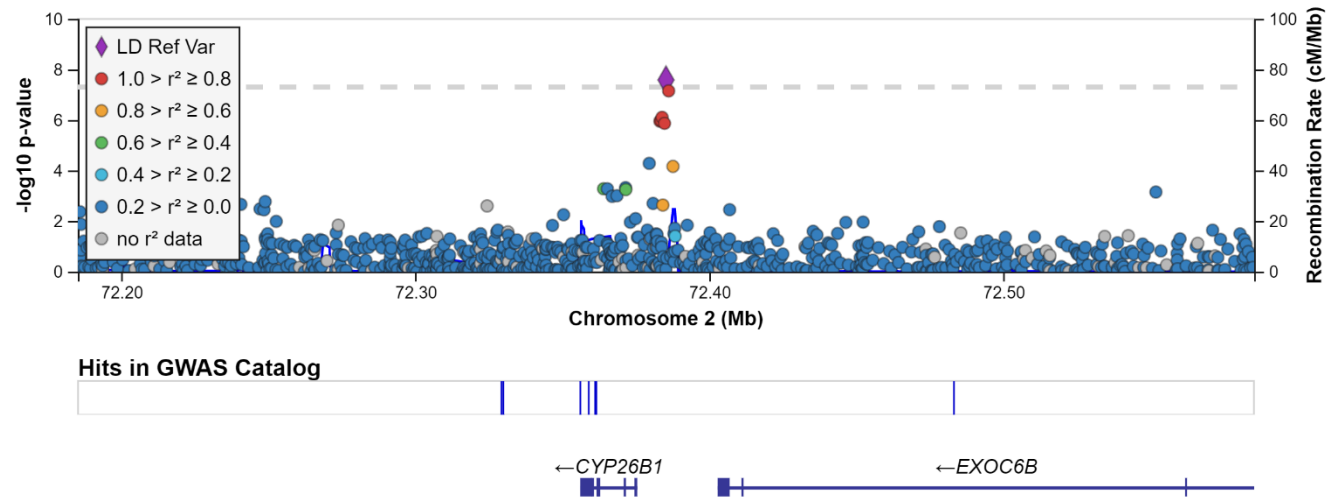
Hits in GWAS Catalog



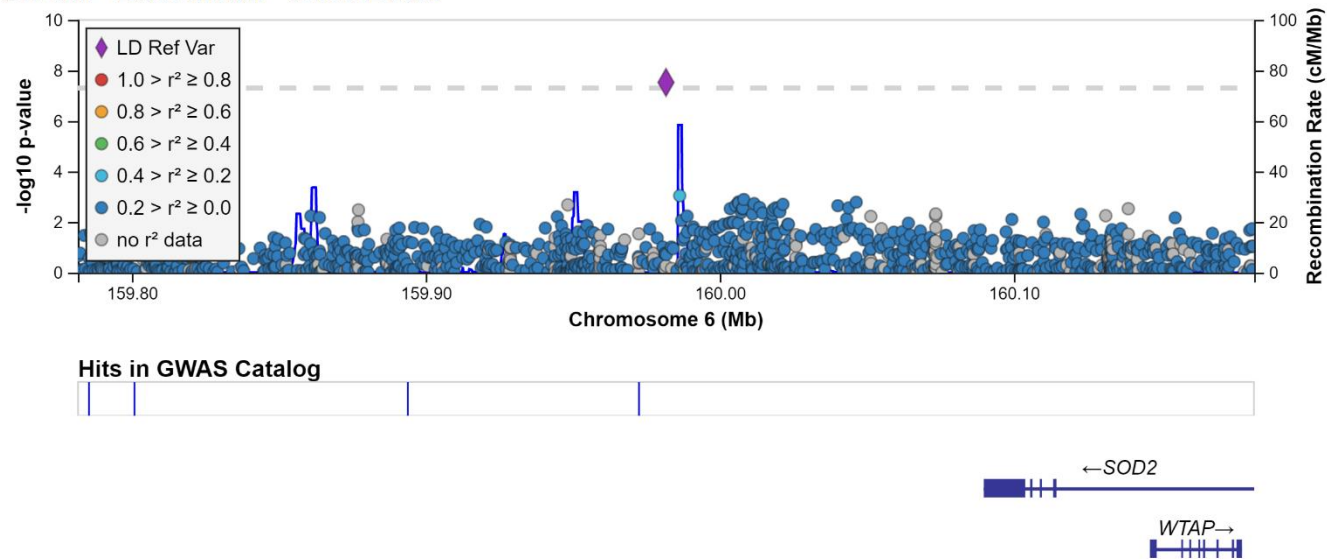
Ghrelin - Base Model - 3:49318960\*



Ghrelin - Base Model - rs150921599

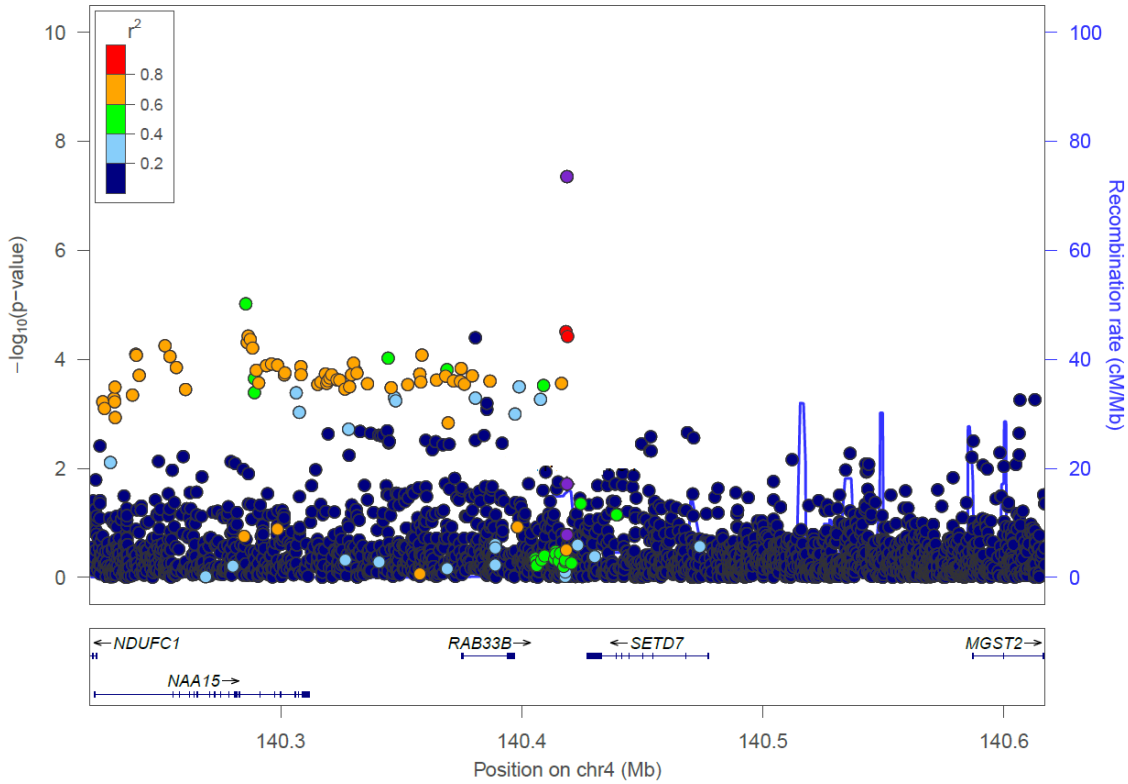


Ghrelin - Base Model - rs183921098

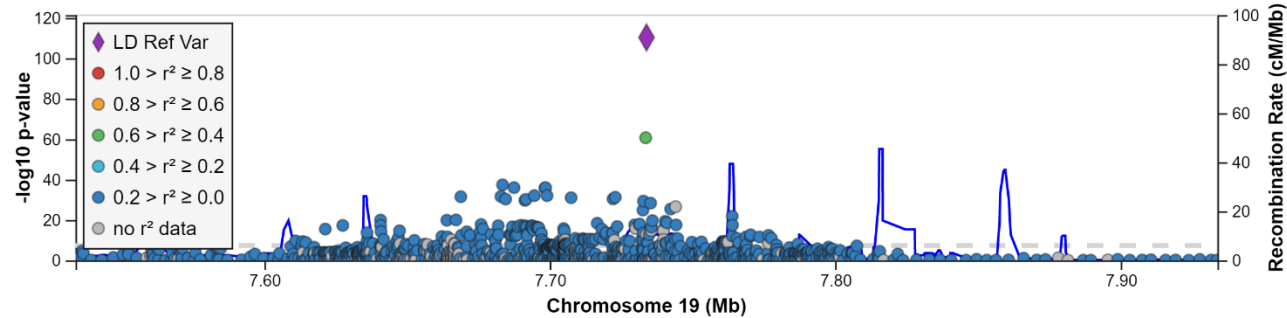




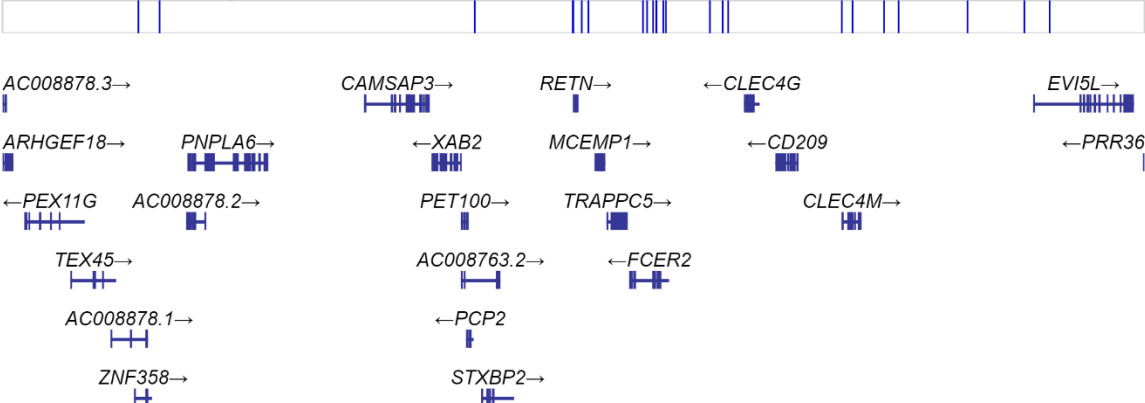
Ghrelin - Base Model - rs372331930\*



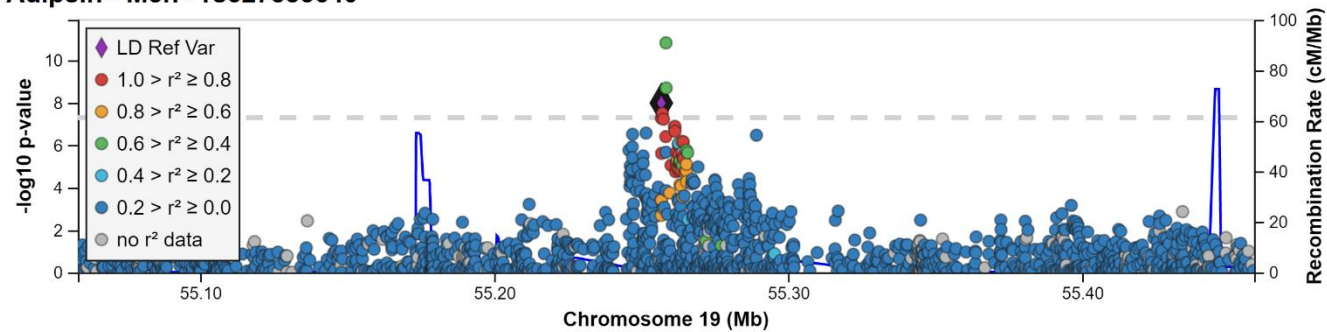
Resistin - Base Model - rs3219175



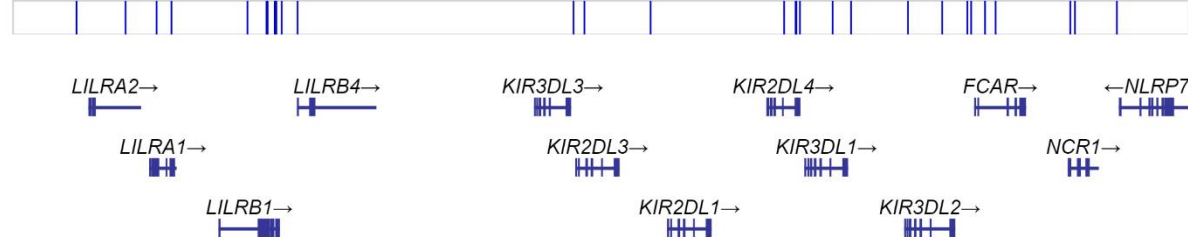
Hits in GWAS Catalog



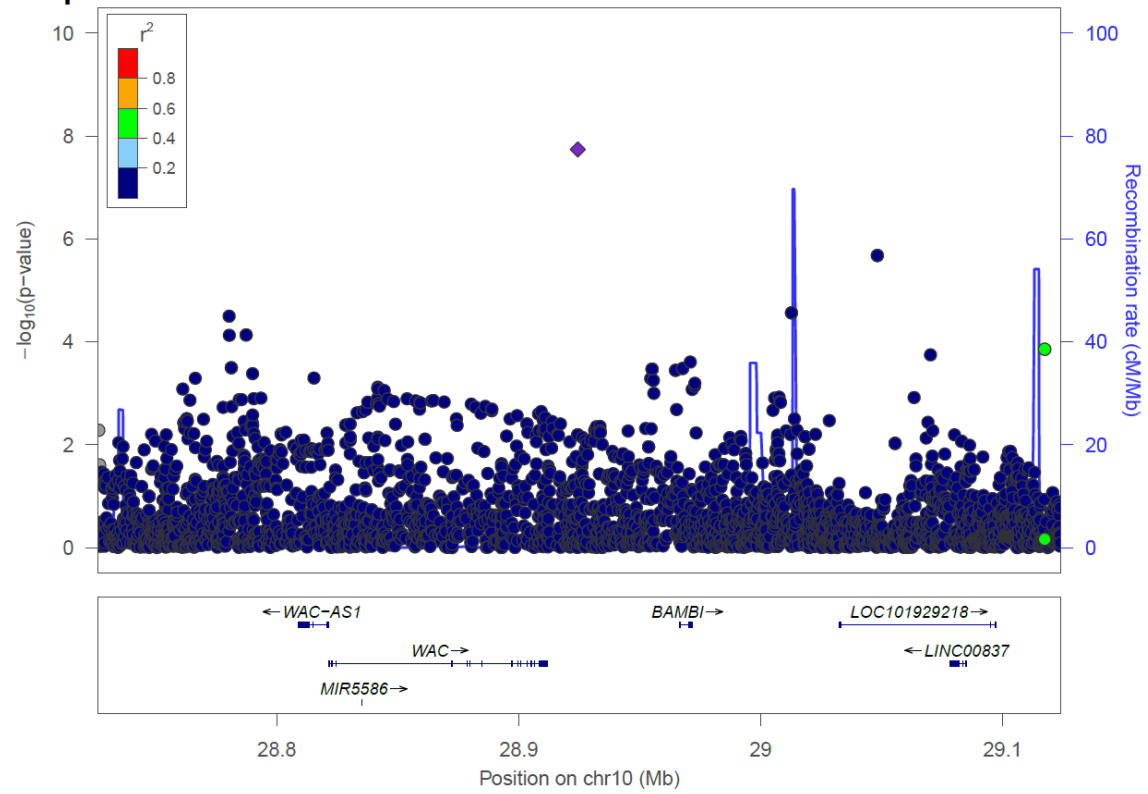
# Adipsin - Men - rs527885640



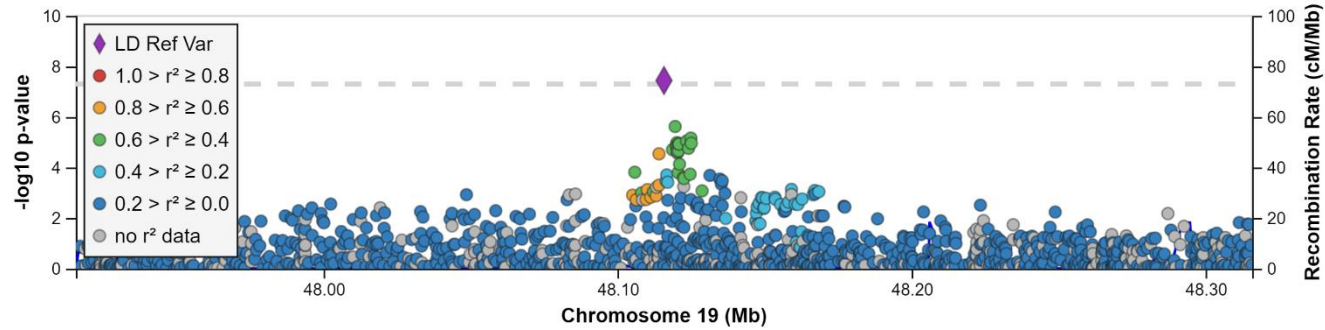
## Hits in GWAS Catalog



# Adipsin - Men - rs61848529\*



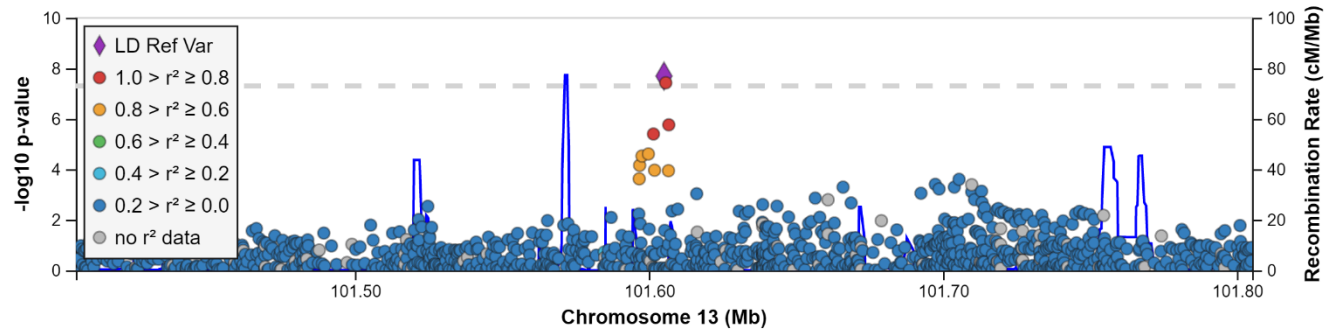
### GLP-1 - Men - rs2974244



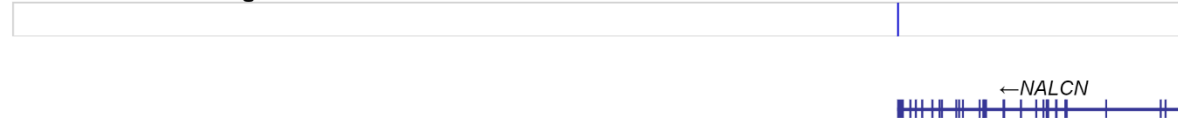
#### Hits in GWAS Catalog



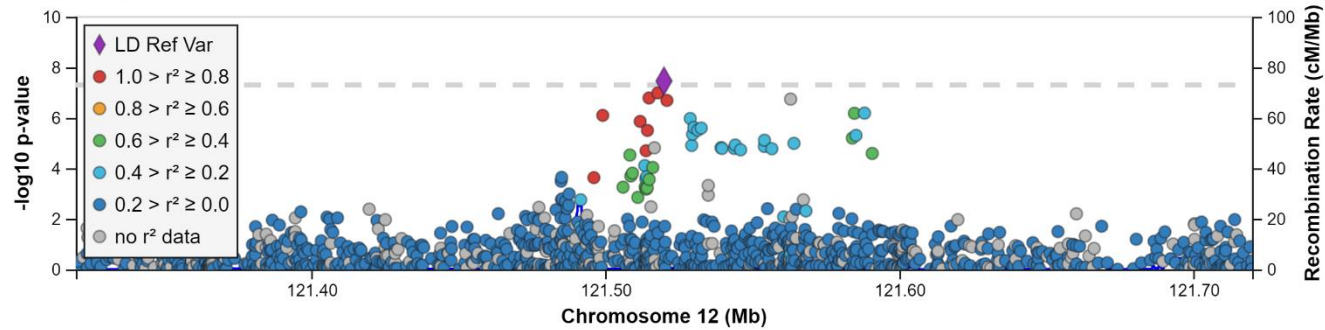
### Insulin - Men - rs1248438



#### Hits in GWAS Catalog



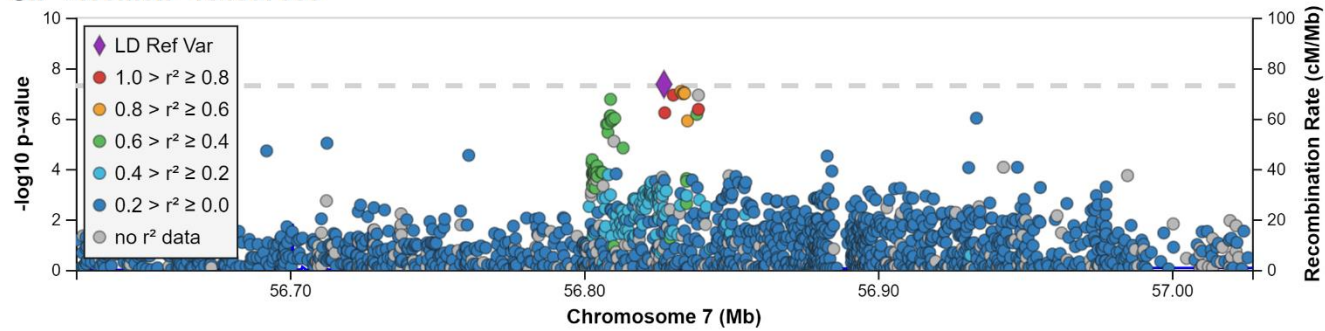
### Insulin - Men - rs73216105



#### Hits in GWAS Catalog



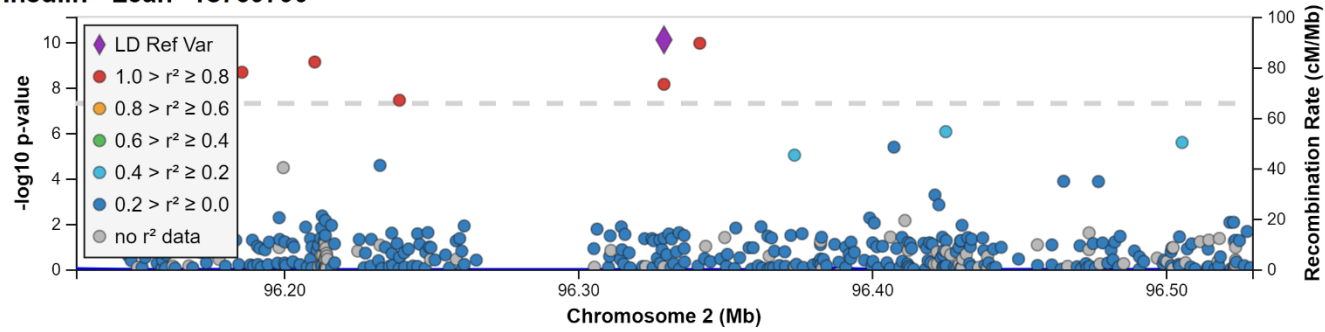
### GIP - Women - rs4397350



#### Hits in GWAS Catalog



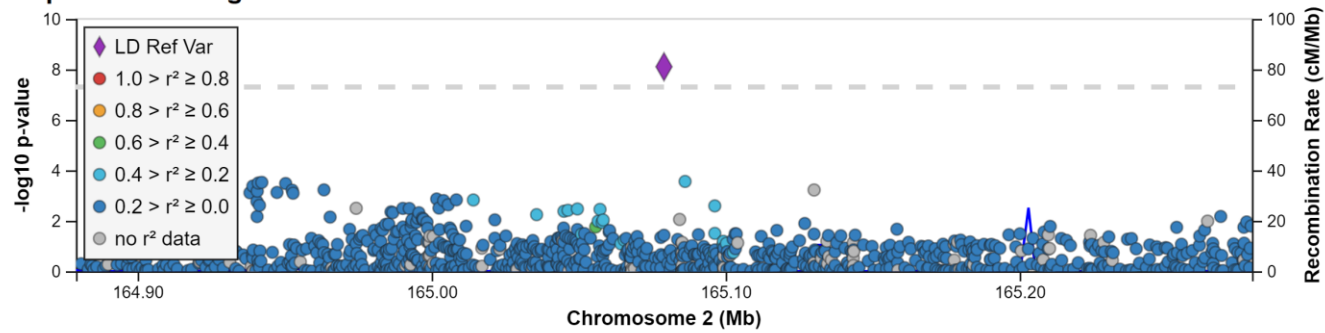
### Insulin - Lean - rs759790



Hits in GWAS Catalog



### Adipsin - Overweight - rs201751833

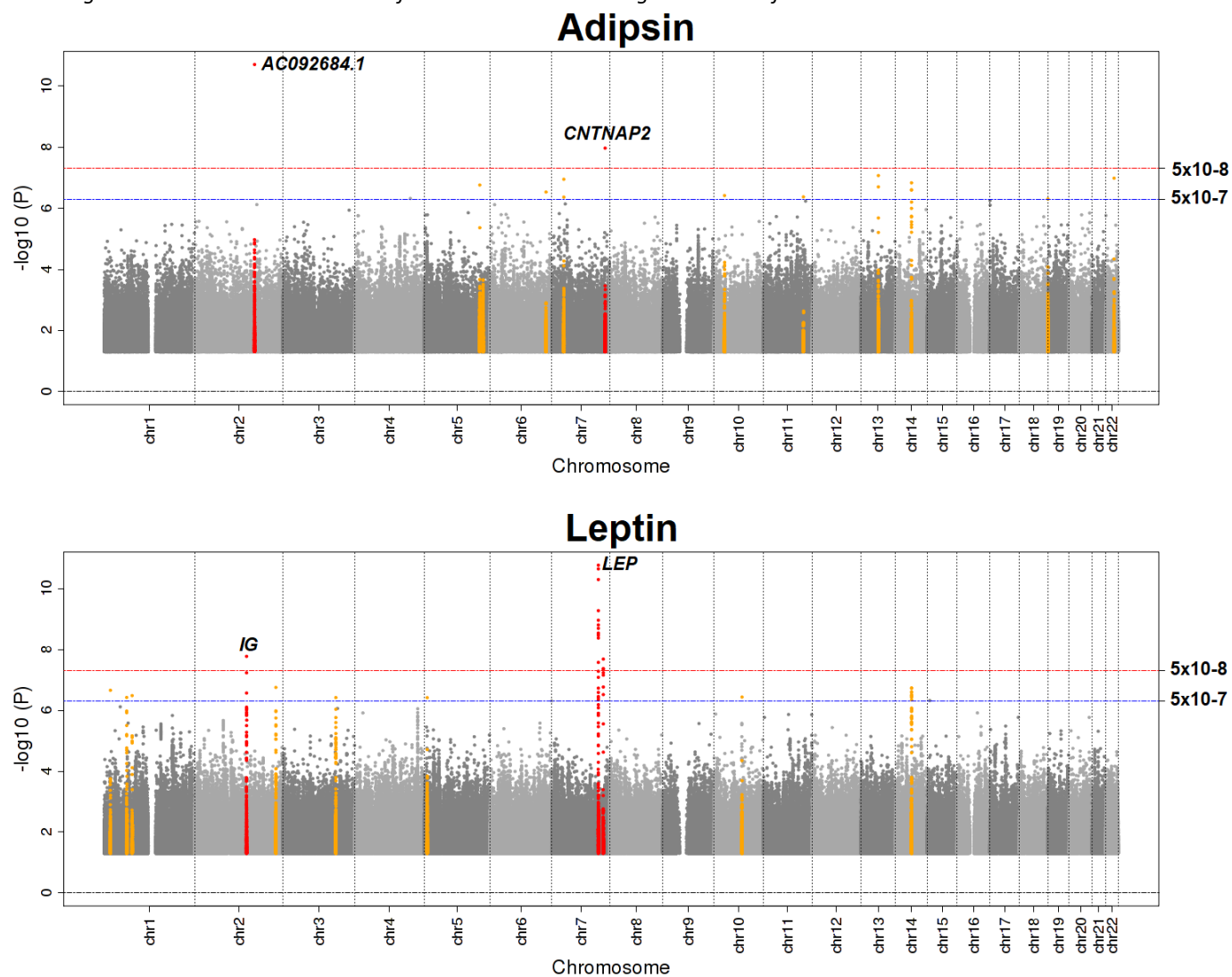


Hits in GWAS Catalog

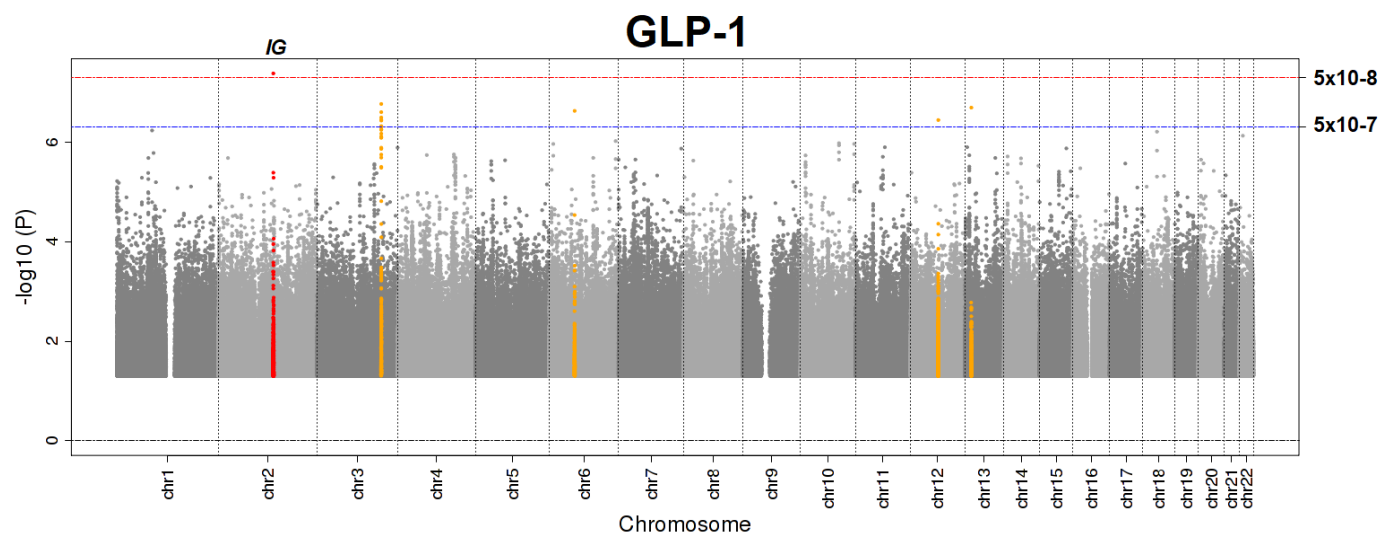
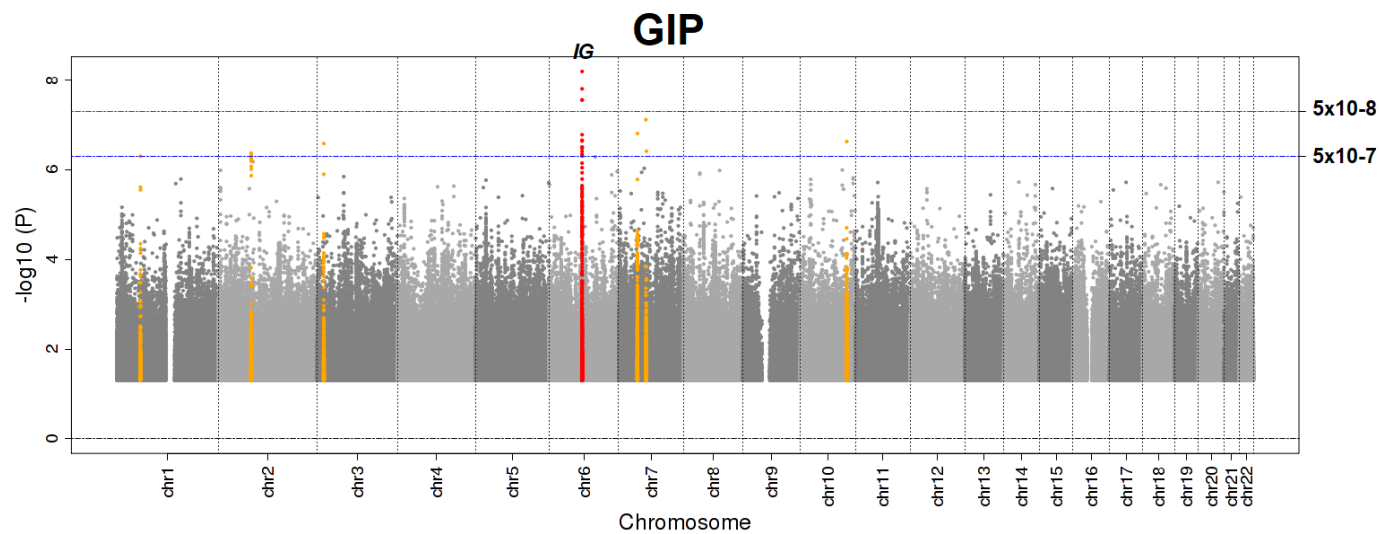


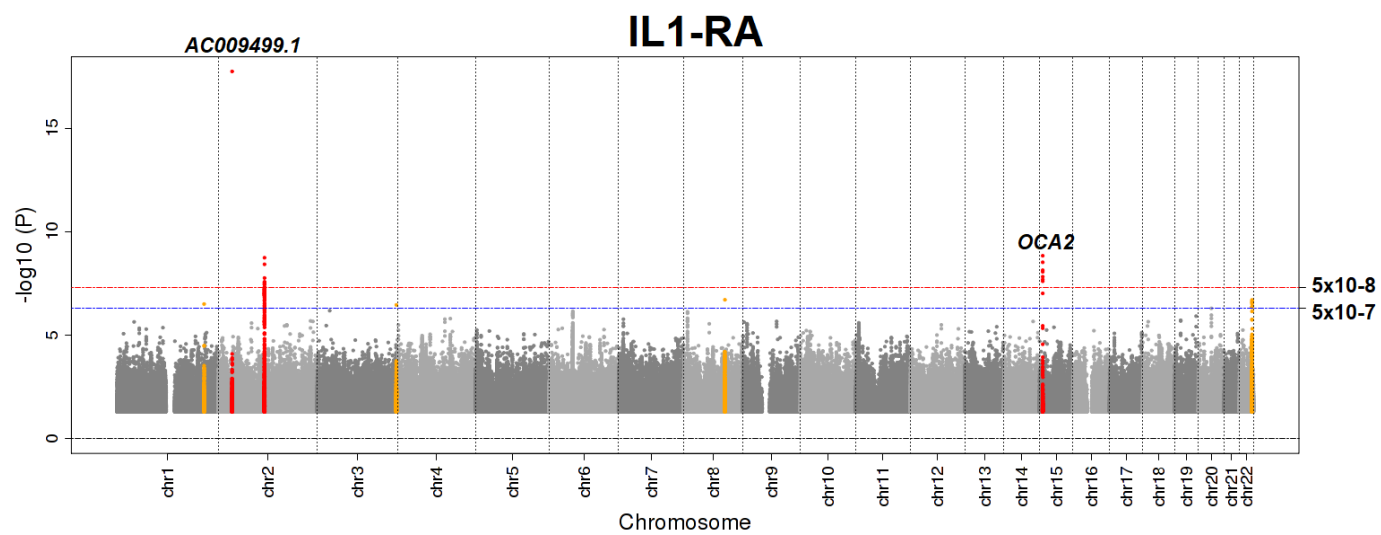
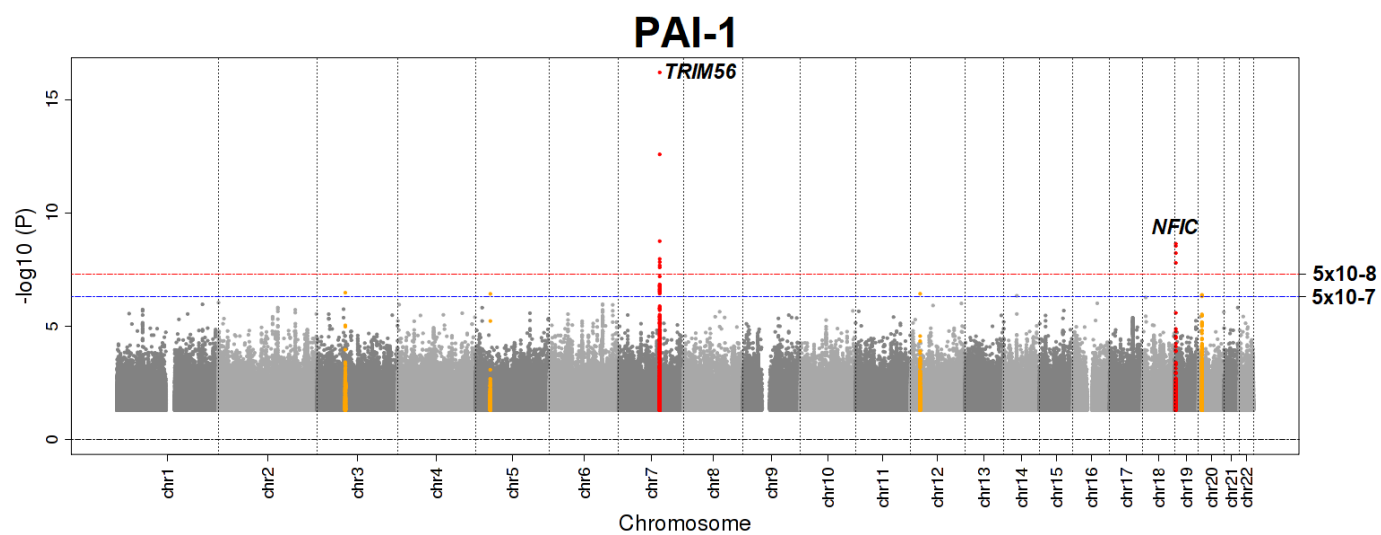
**Fig S3:** Manhattan plots for meta-analysis of discovery and replication cohorts combined for all 13 obesity- and diabetes-related cytokines and hormones.

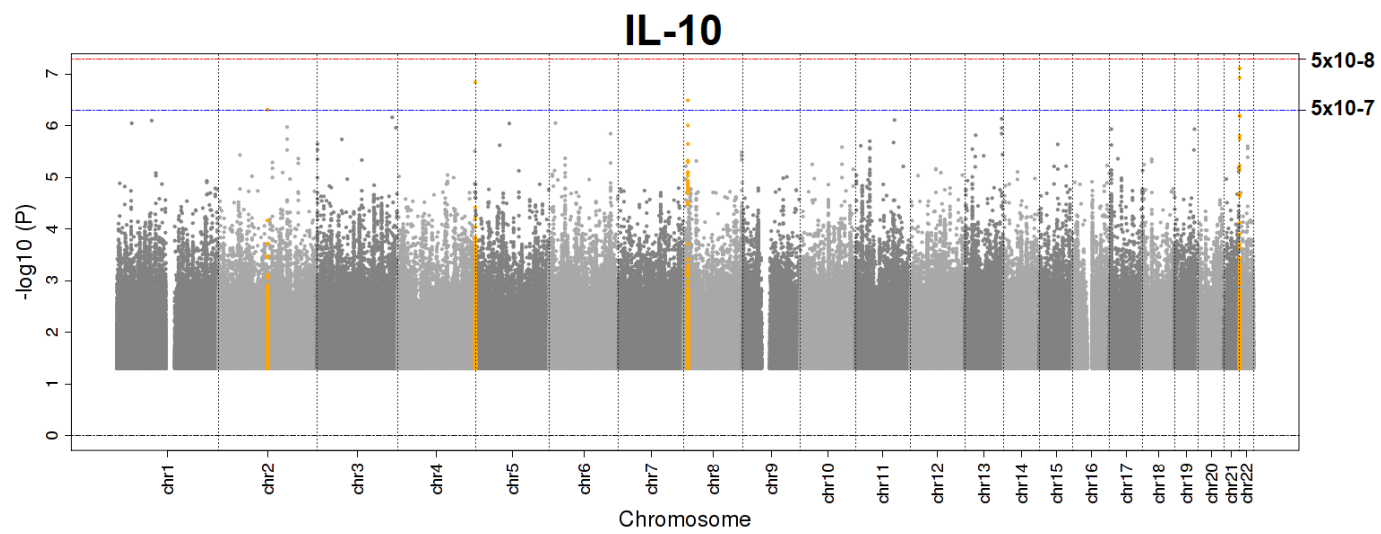
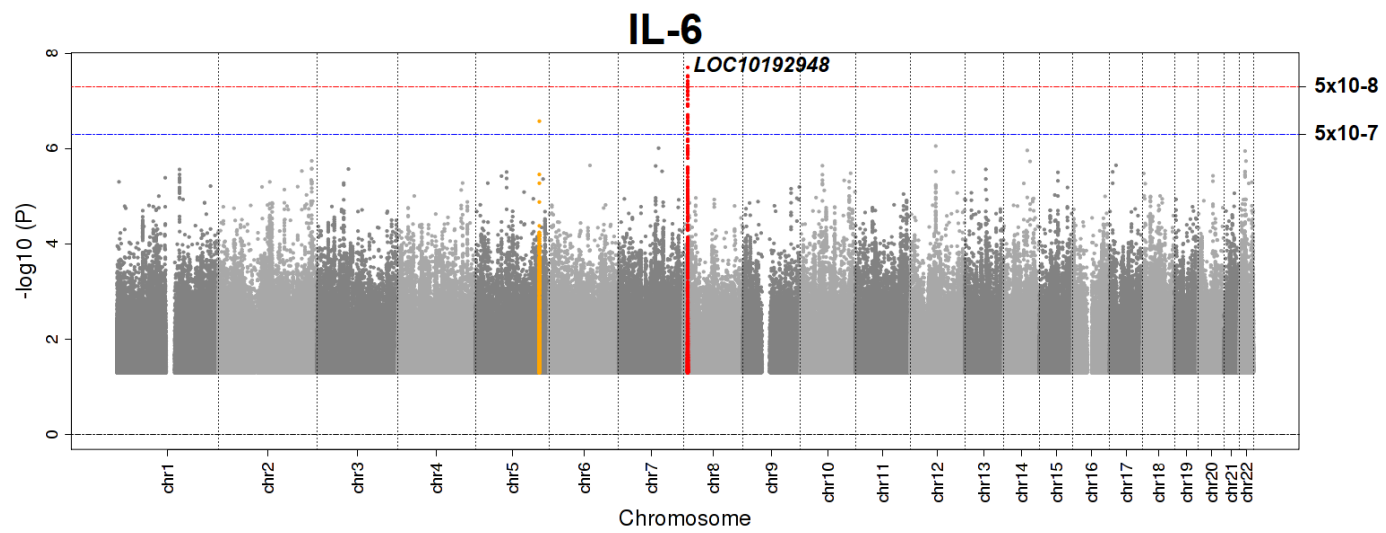
*IG* = Intergenic. Loci in red had a  $P$ -value of  $<5 \times 10^{-8}$  and loci in orange a  $P$ -value of  $<5 \times 10^{-7}$ .

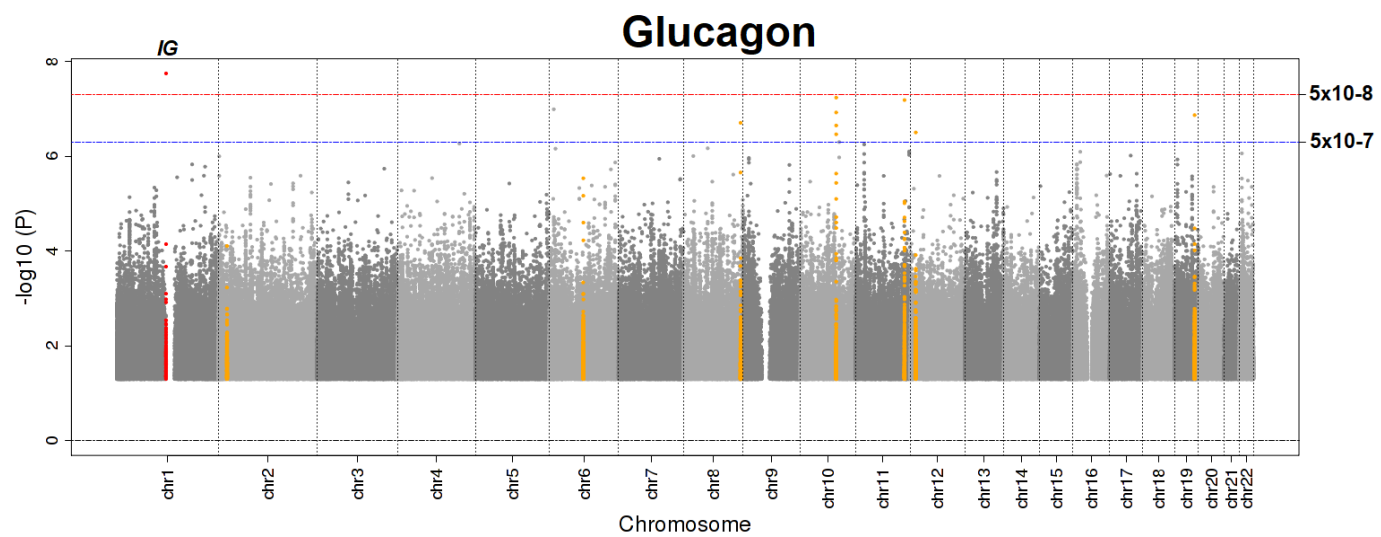
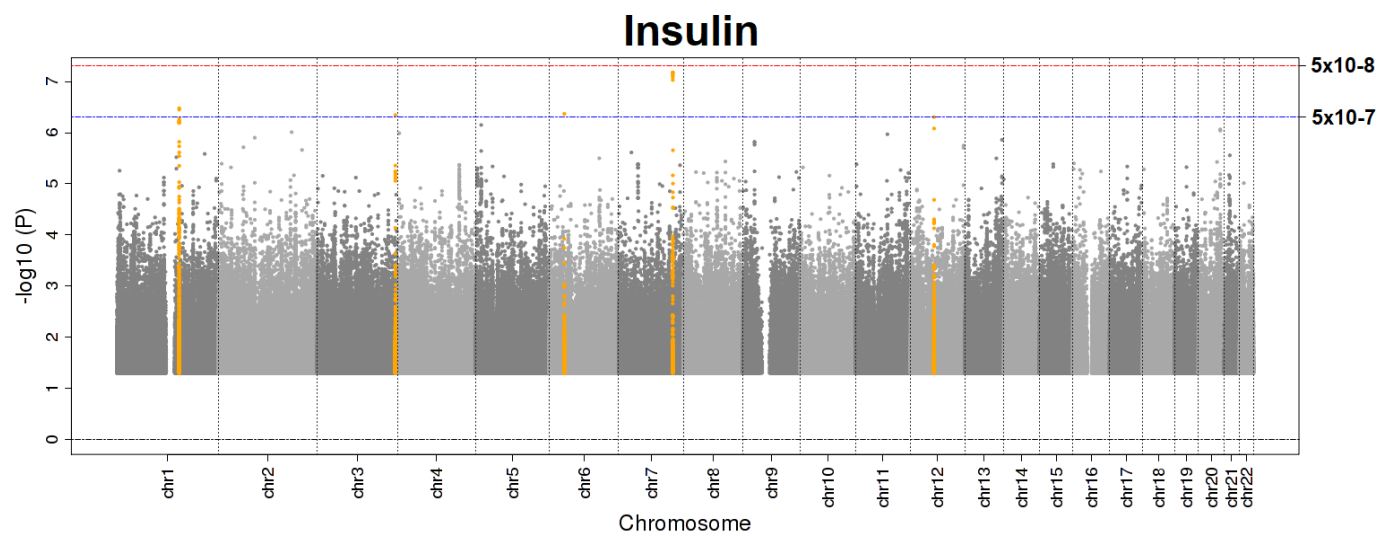


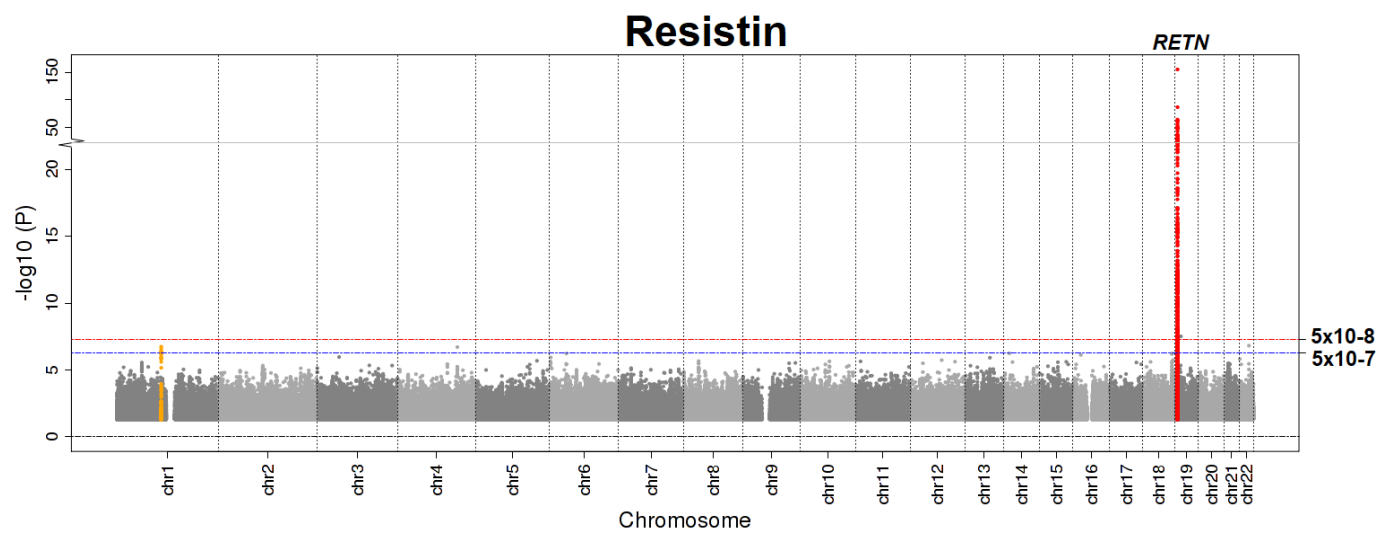
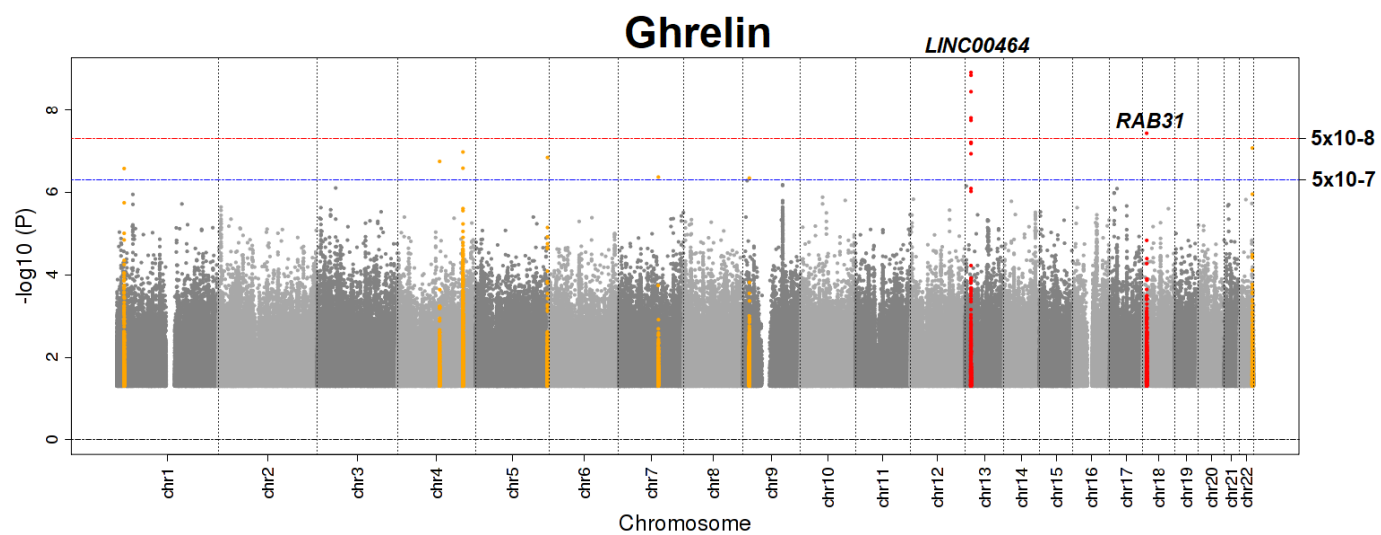


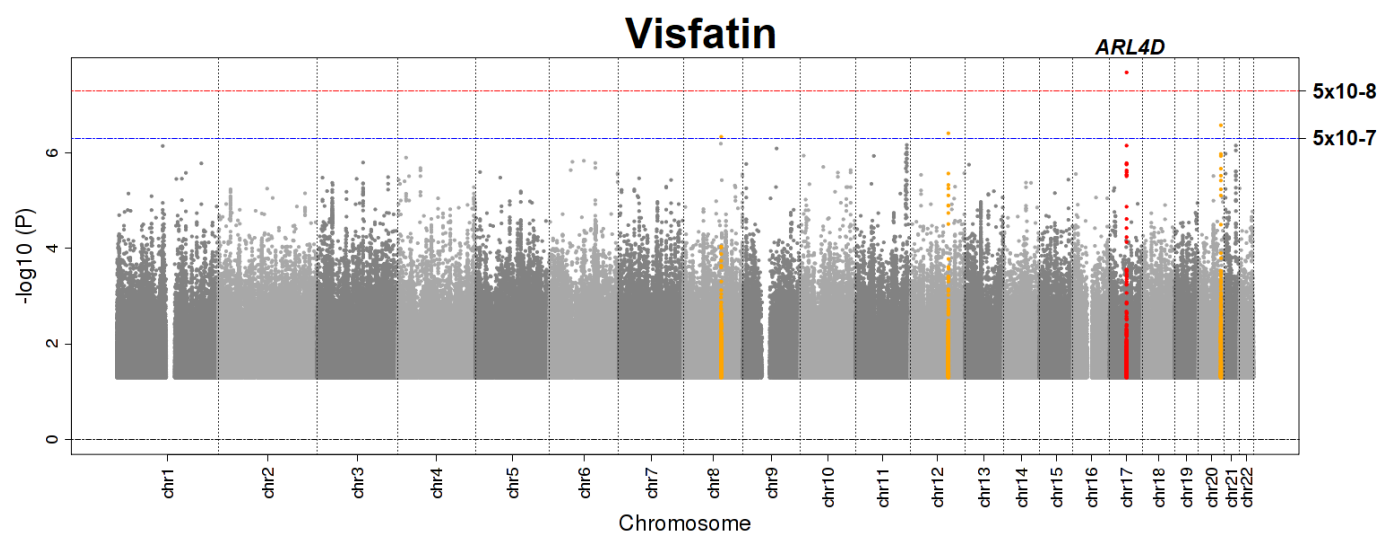






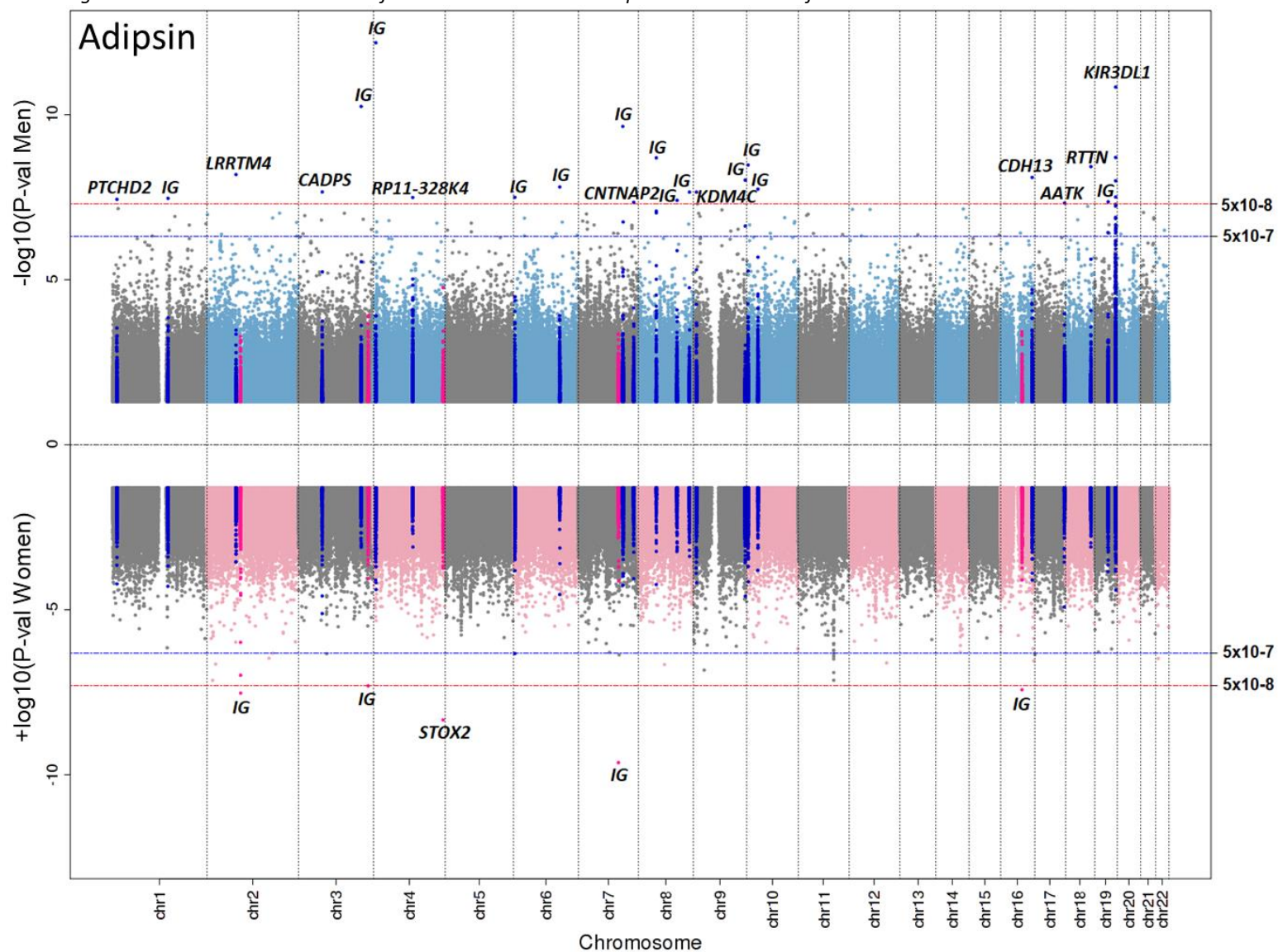




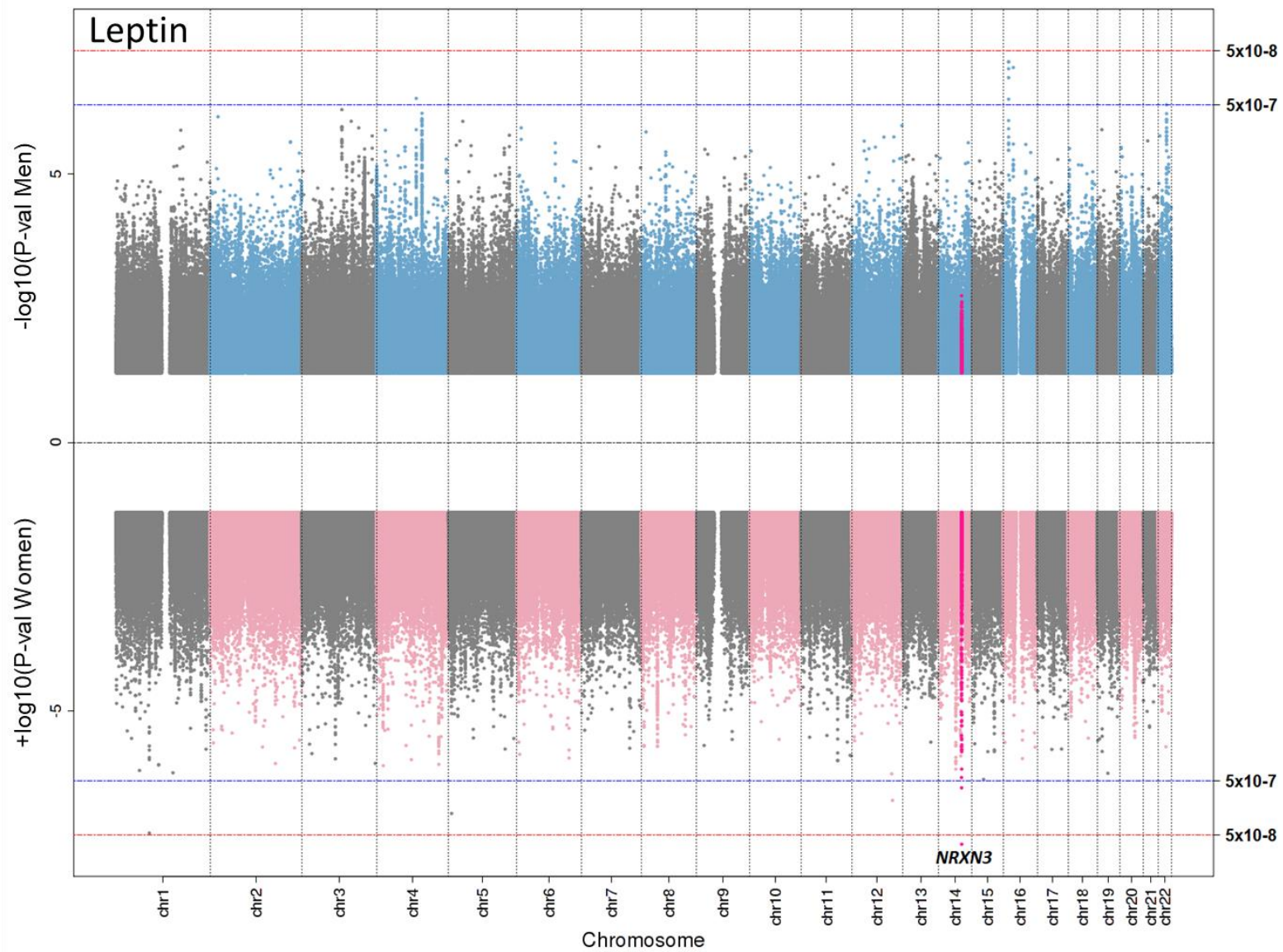


**Fig S4:** Miami plots for sex-stratified analyses for all 13 obesity- and diabetes-related cytokines and hormones.

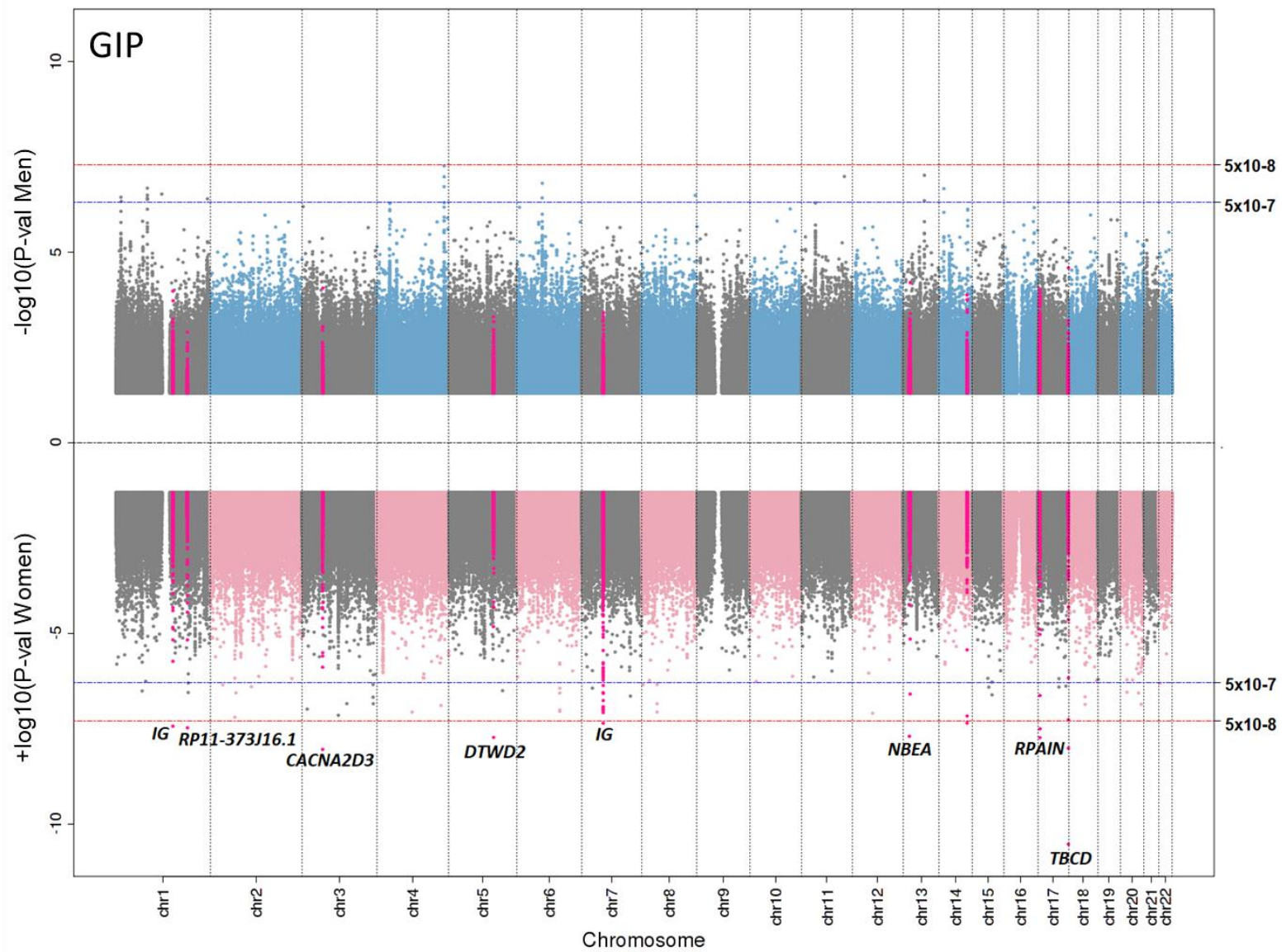
IG = Intergenic. Loci in blue had a  $P$ -value of  $<5 \times 10^{-8}$  in men and loci in pink had a  $P$ -value of  $<5 \times 10^{-8}$  in women.

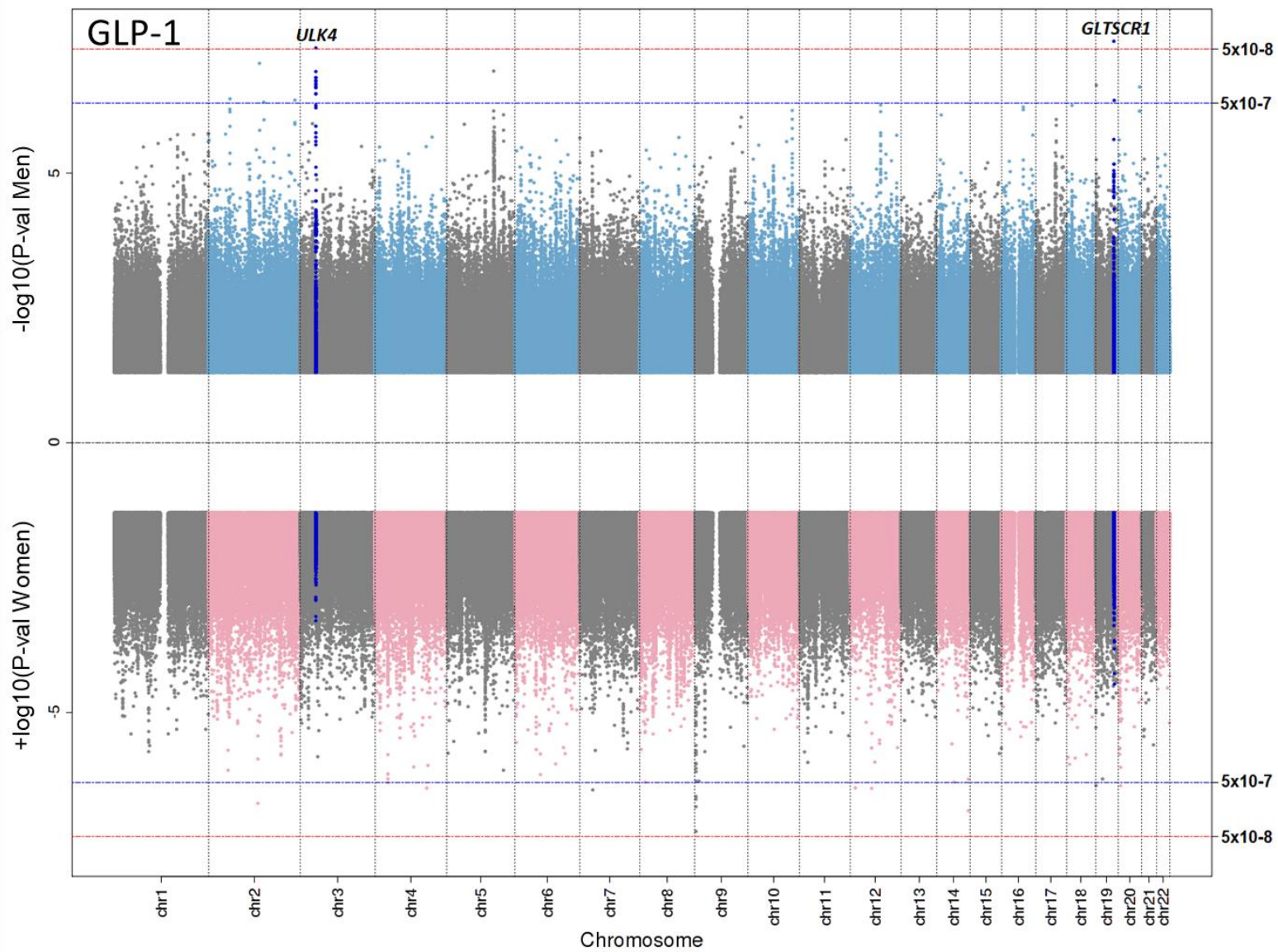


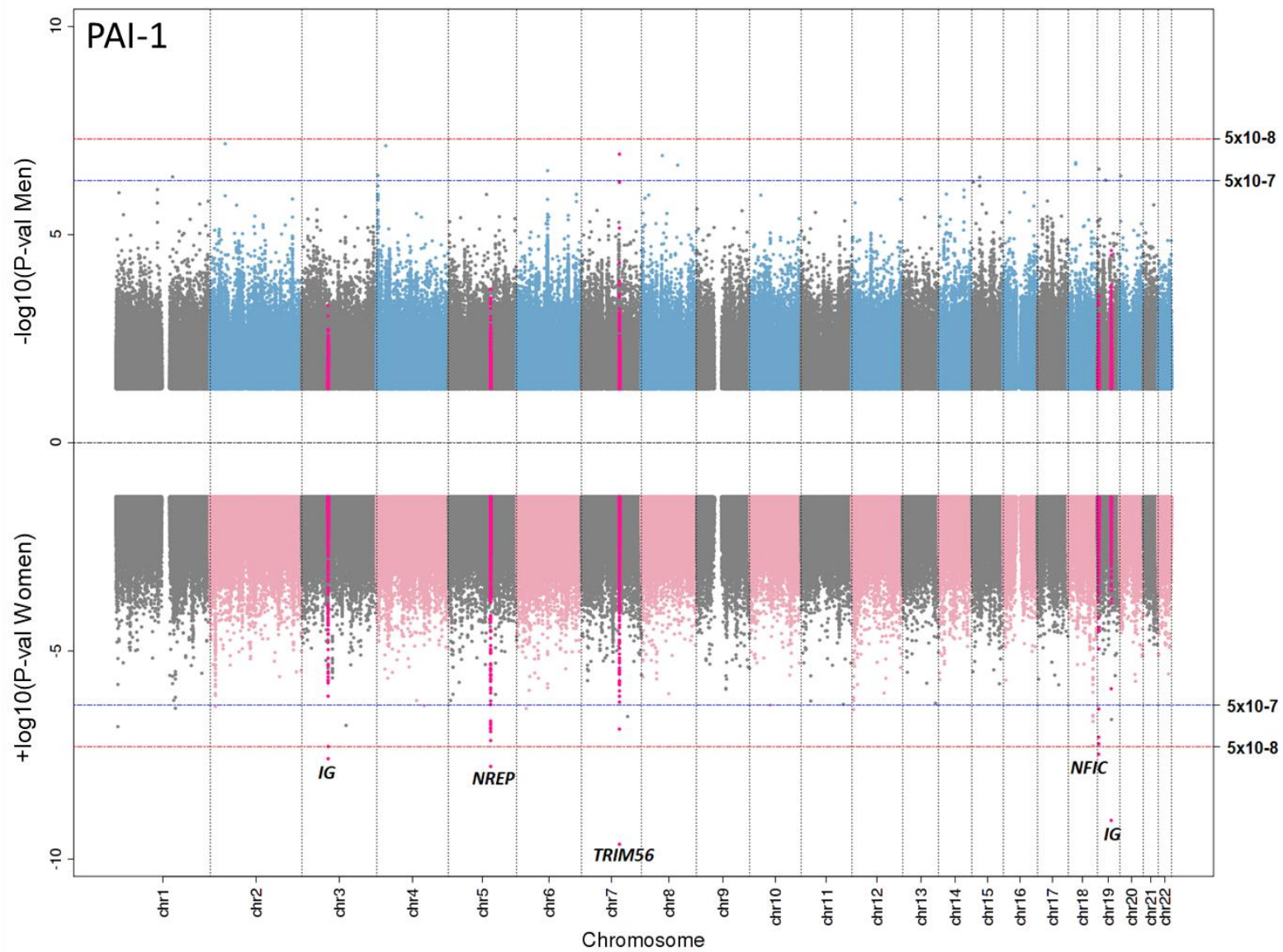




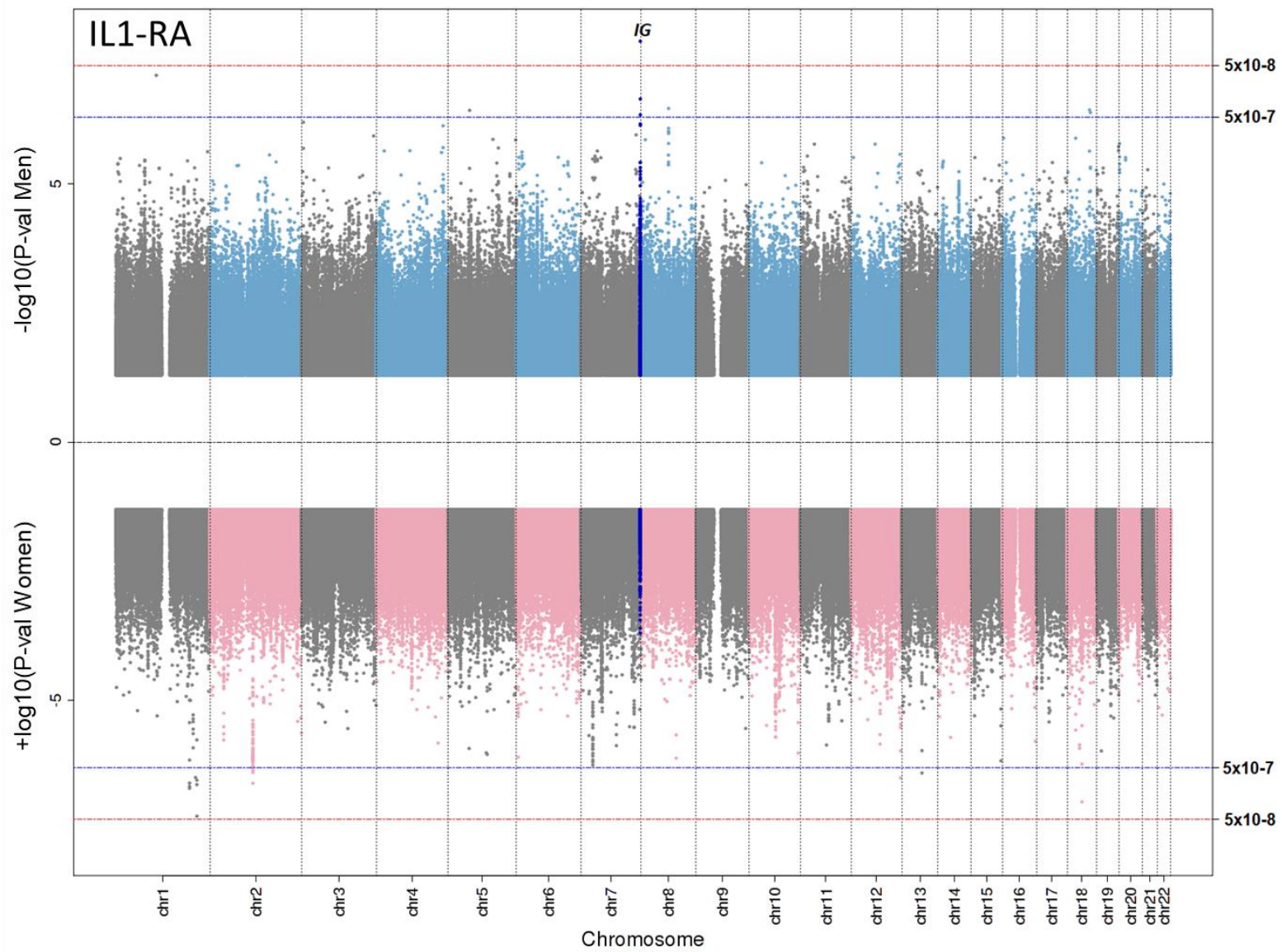


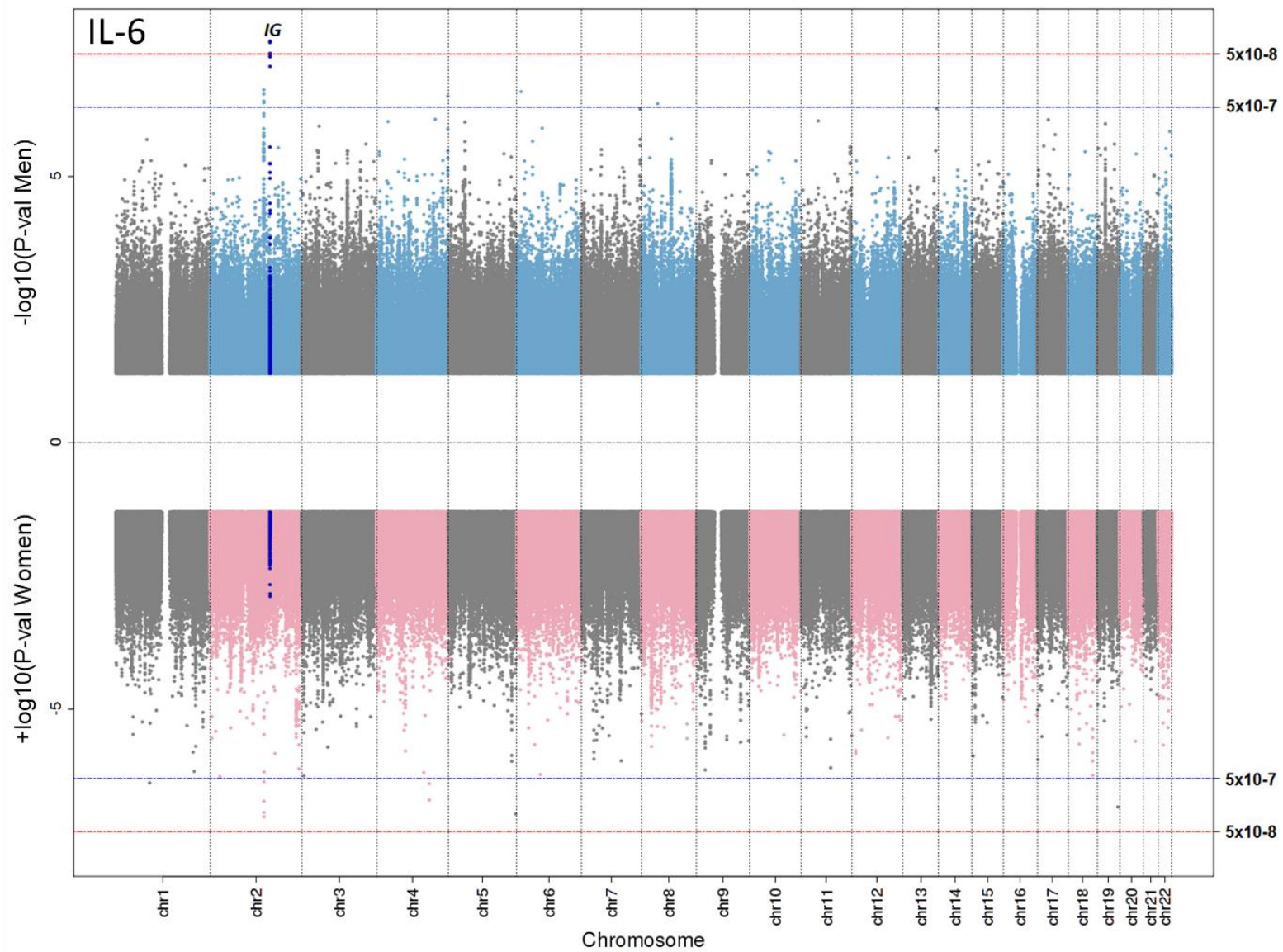


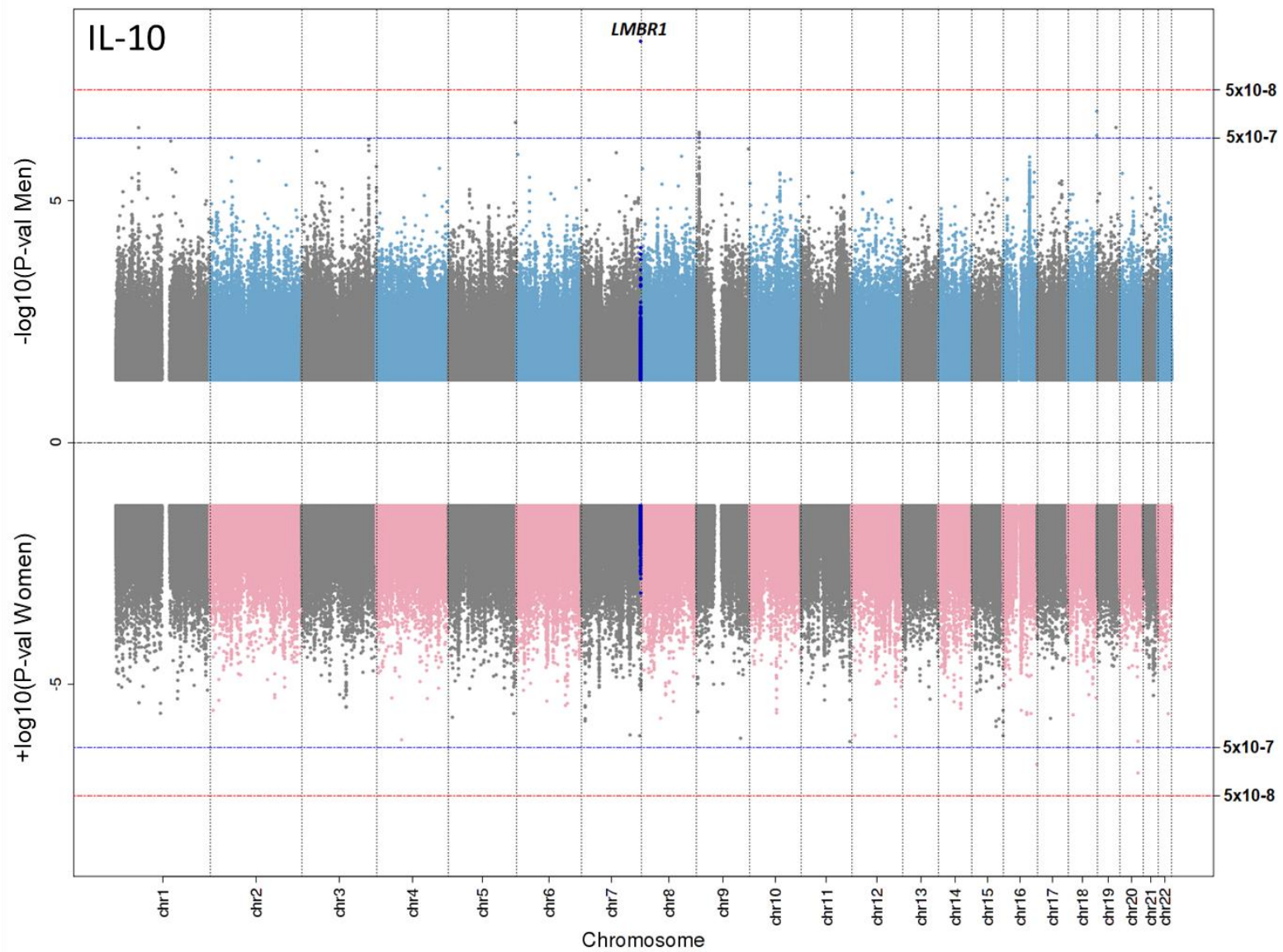




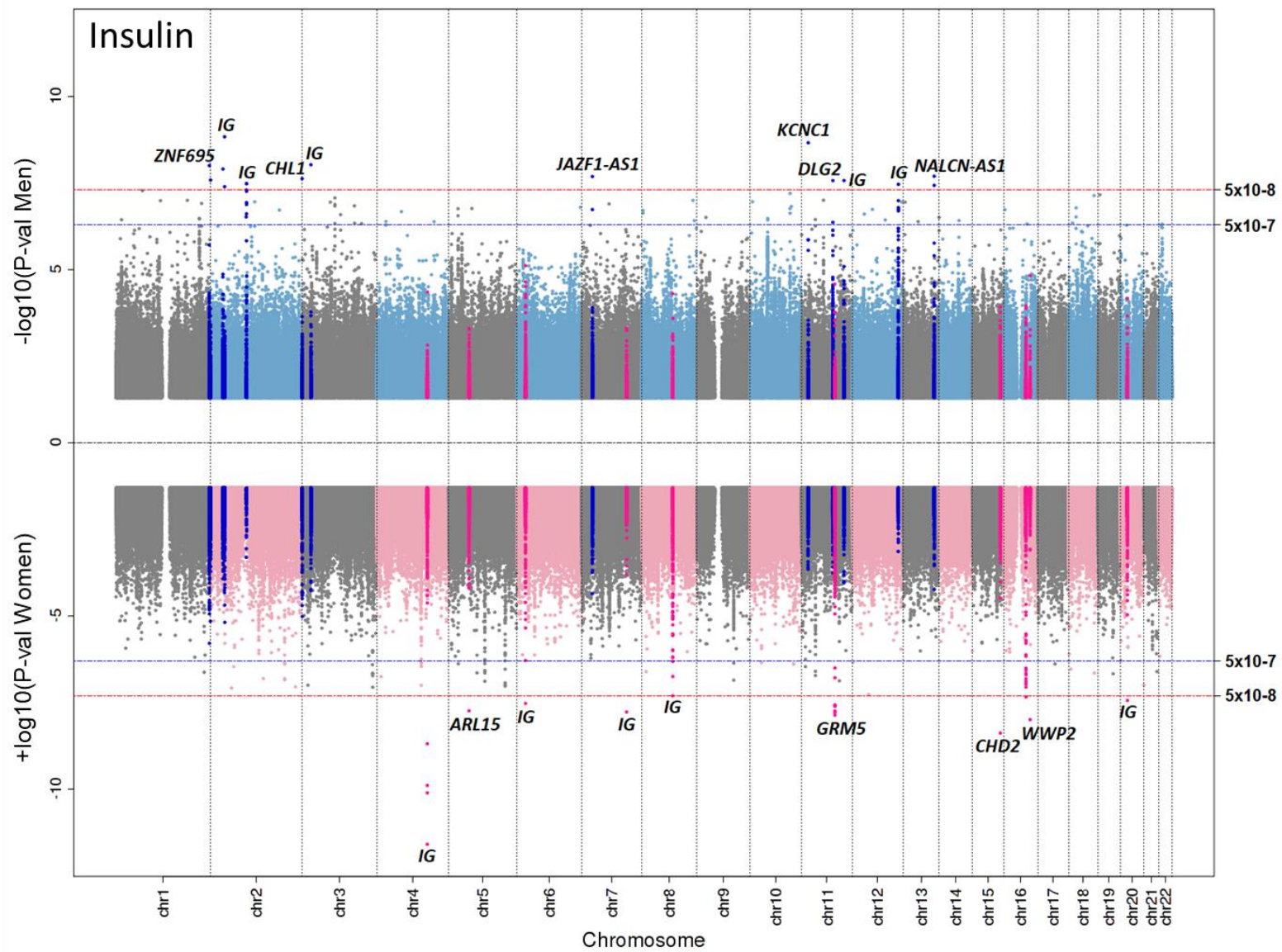


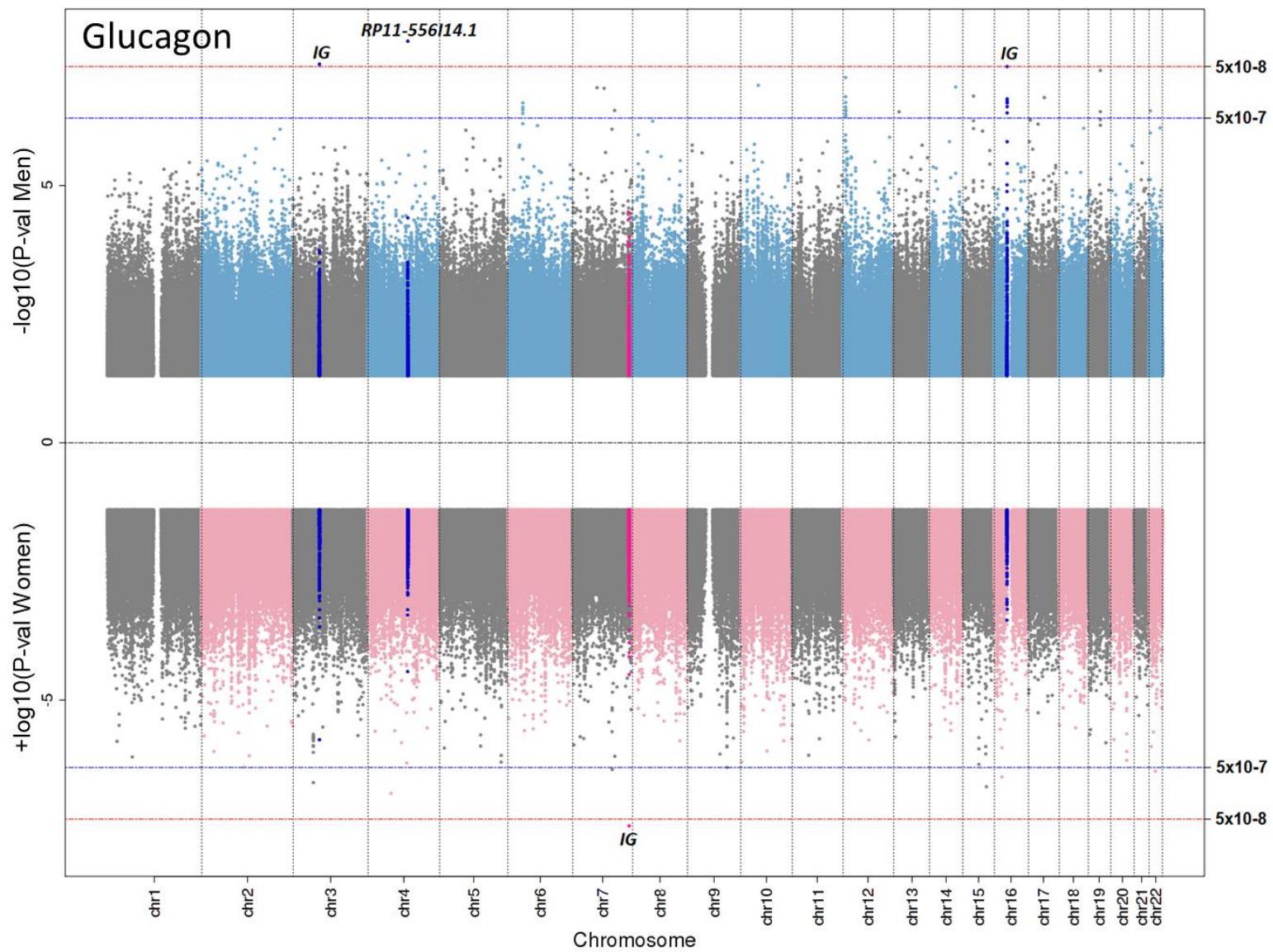




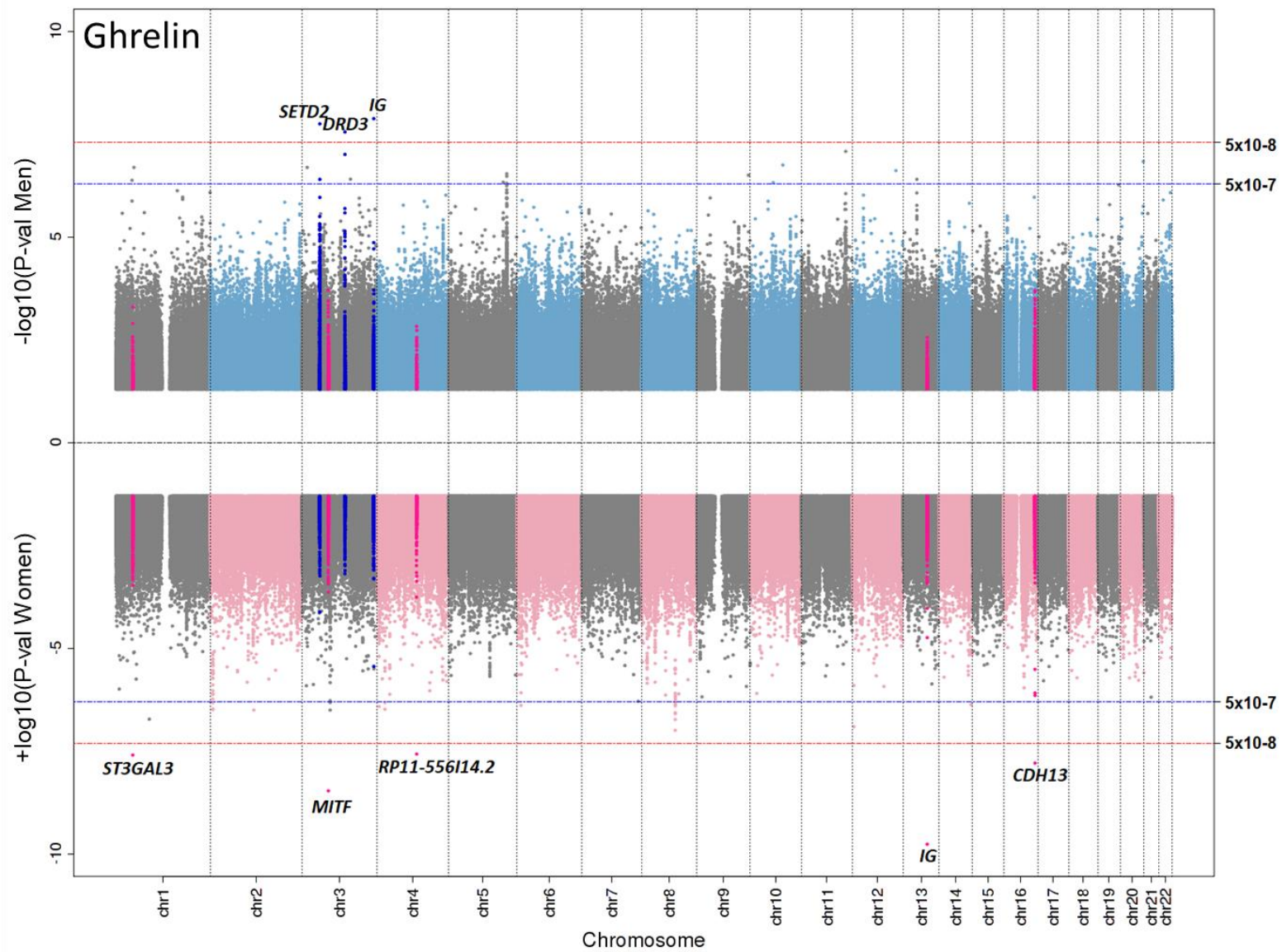


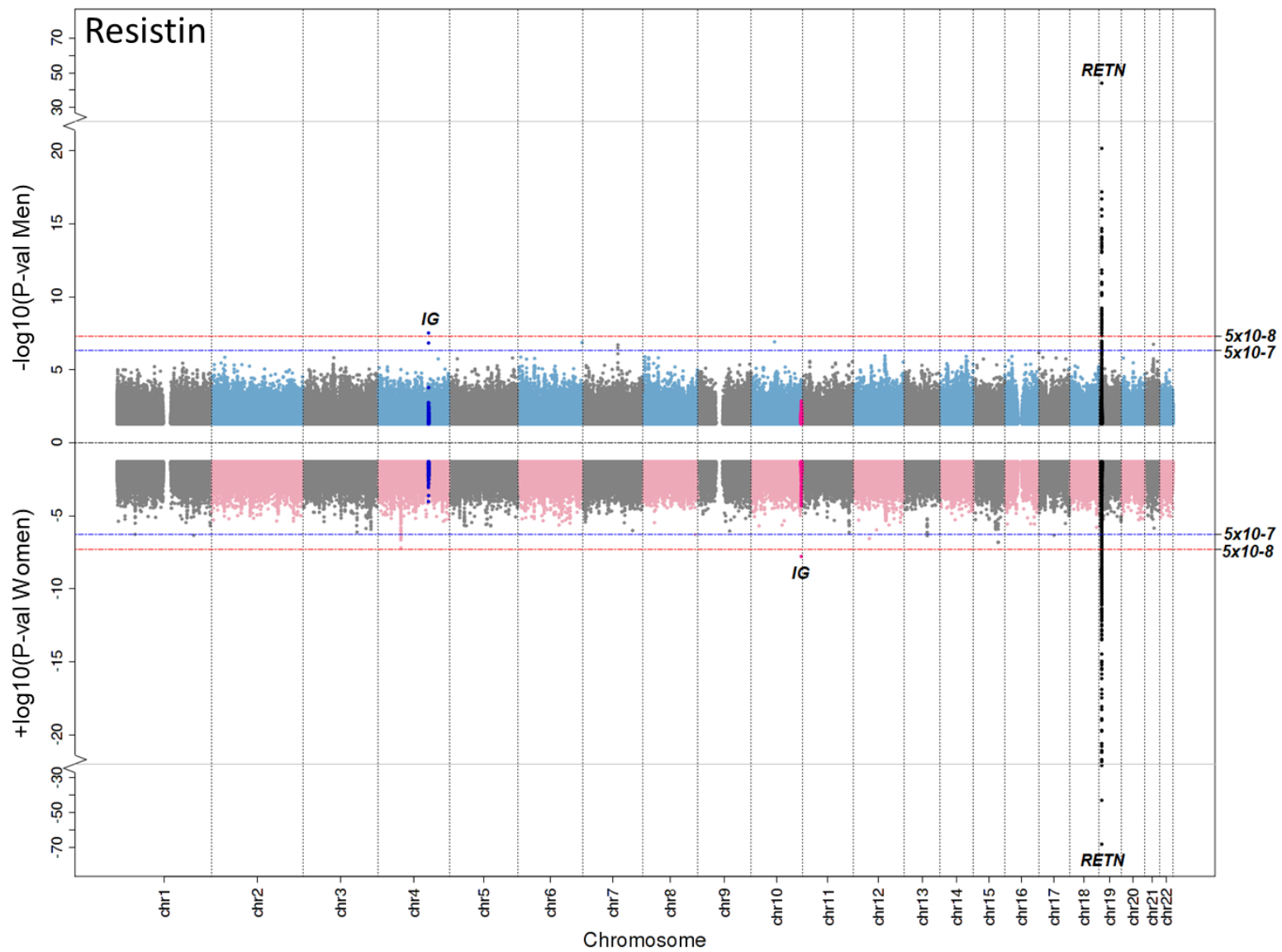


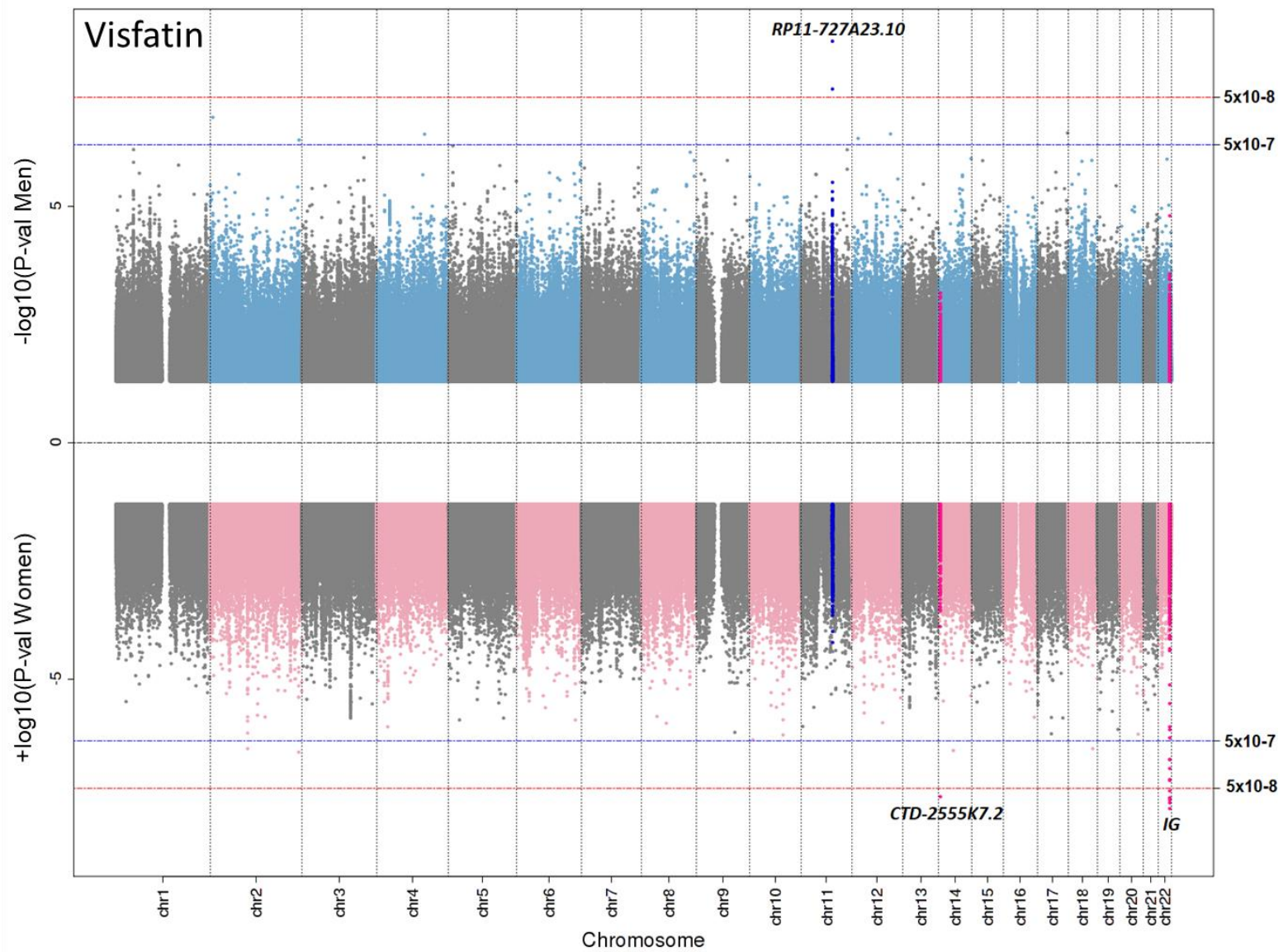






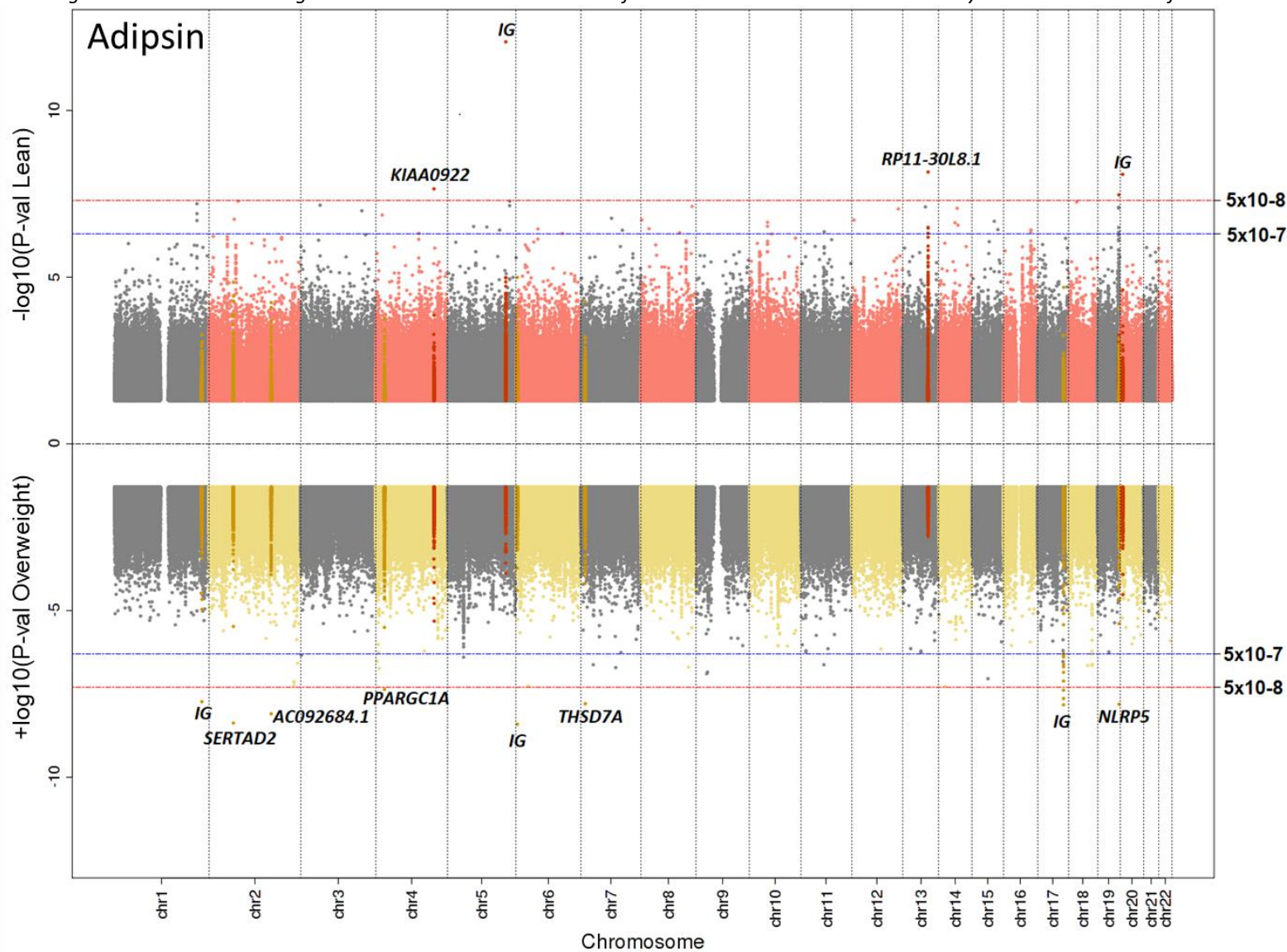




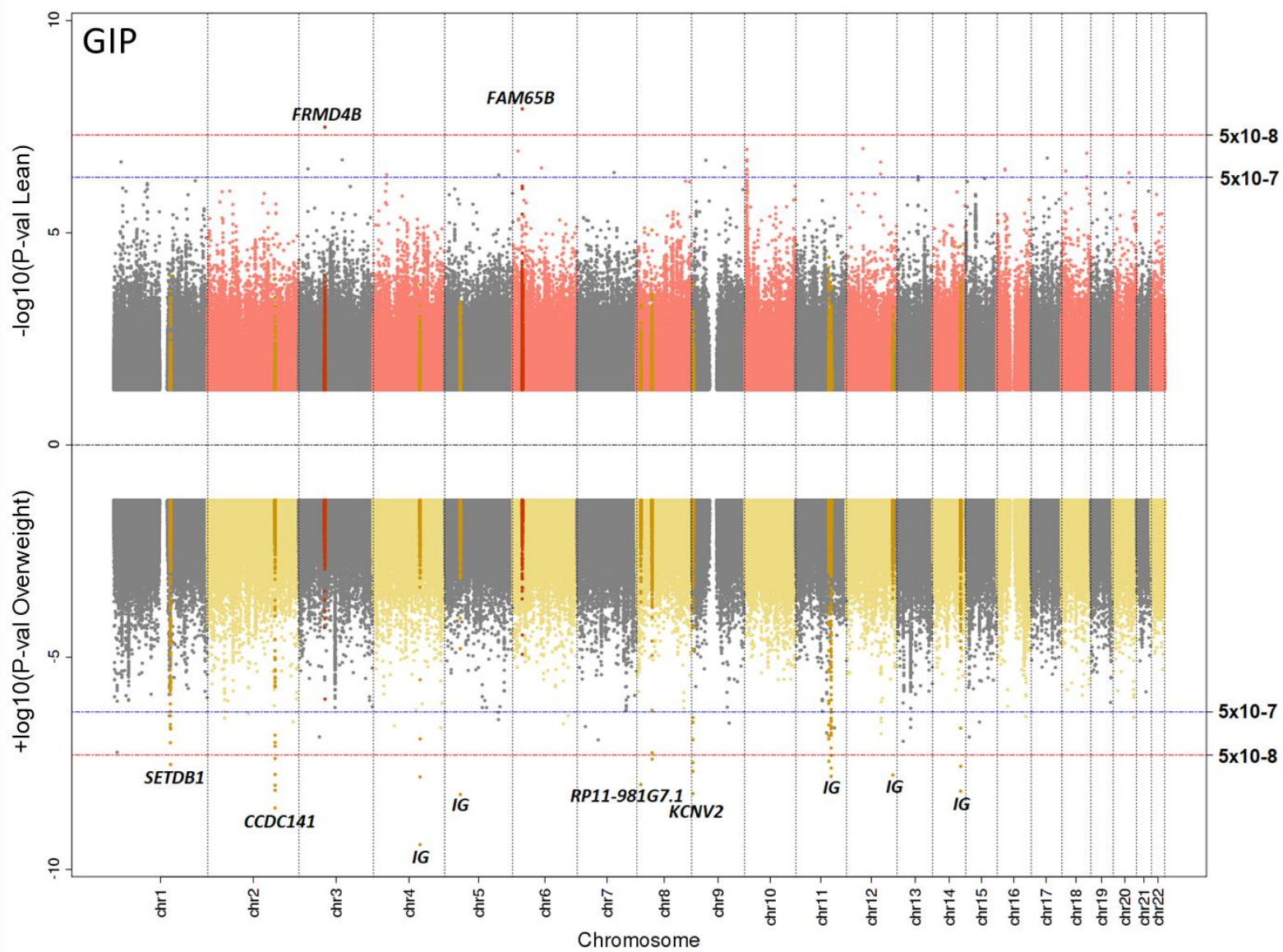




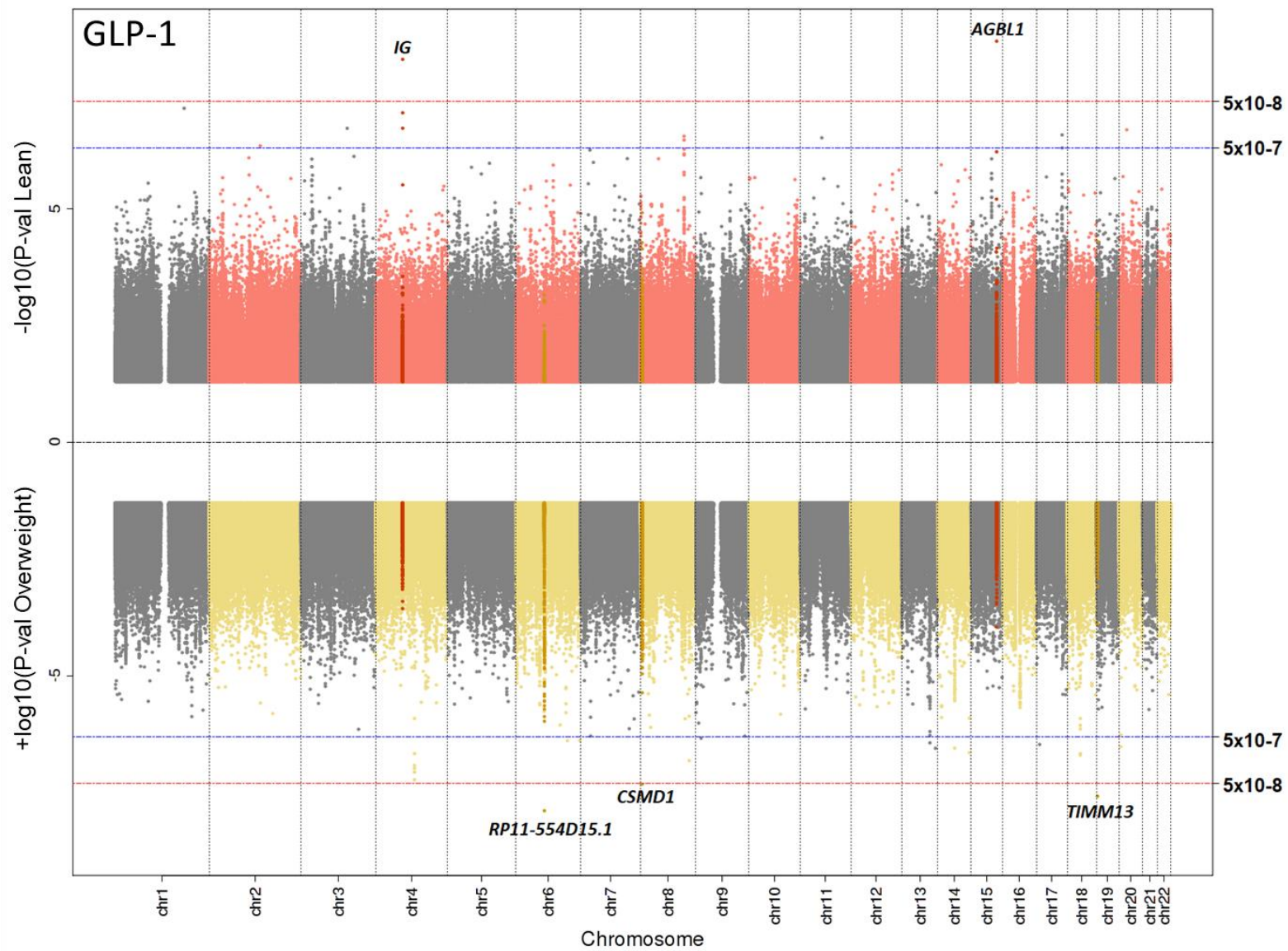
**Fig S5:** Miami plots for analyses stratified on BMI status for all 13 obesity- and diabetes-related cytokines and hormones. *Lean* is BMI < 25 and *overweight* is BMI ≥ 25. *IG* = Intergenic. Loci in salmon had a P-value of <5×10<sup>-8</sup> in lean individuals and loci in yellow had a P-value of <5×10<sup>-8</sup> among overweight.

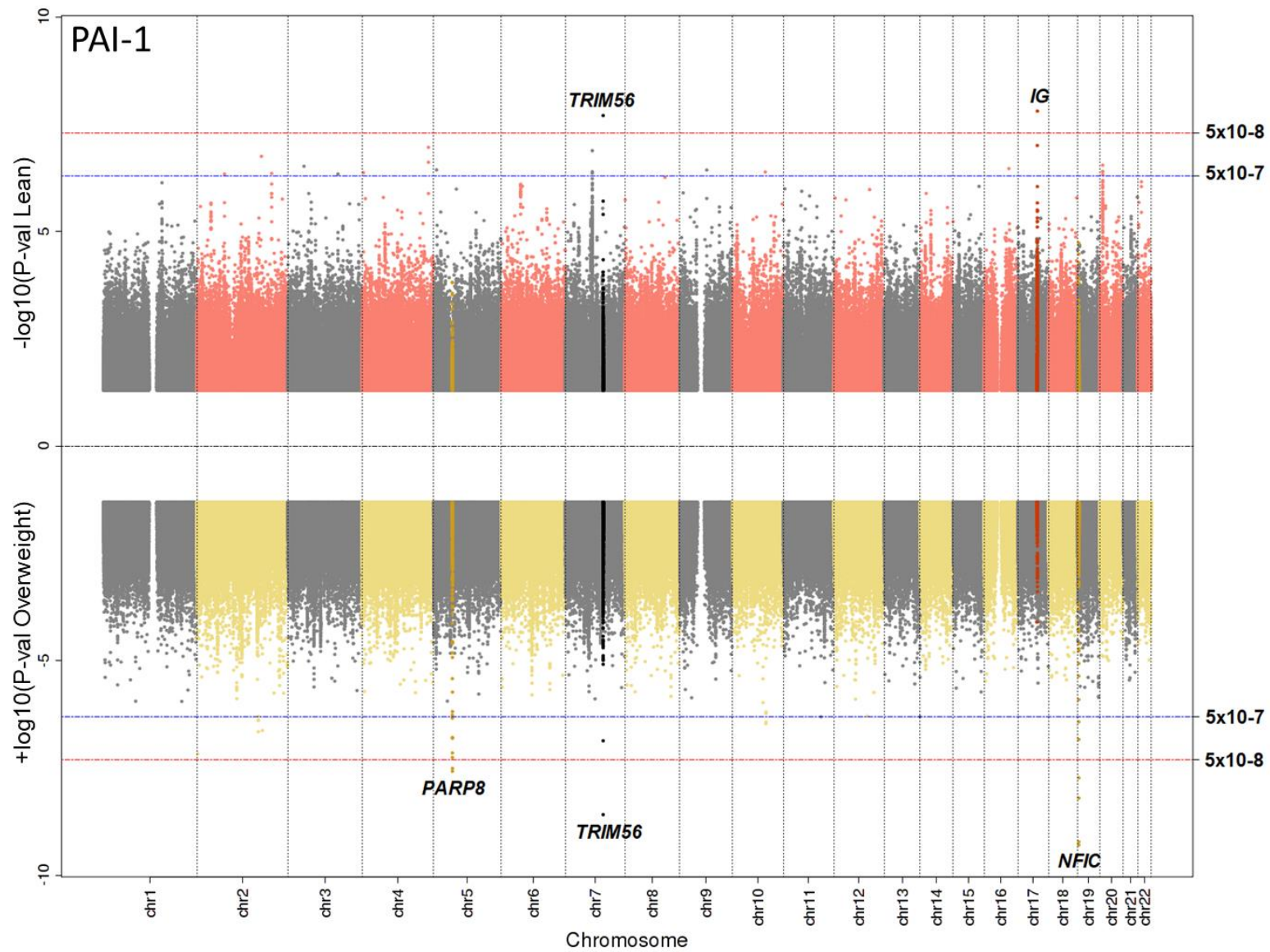




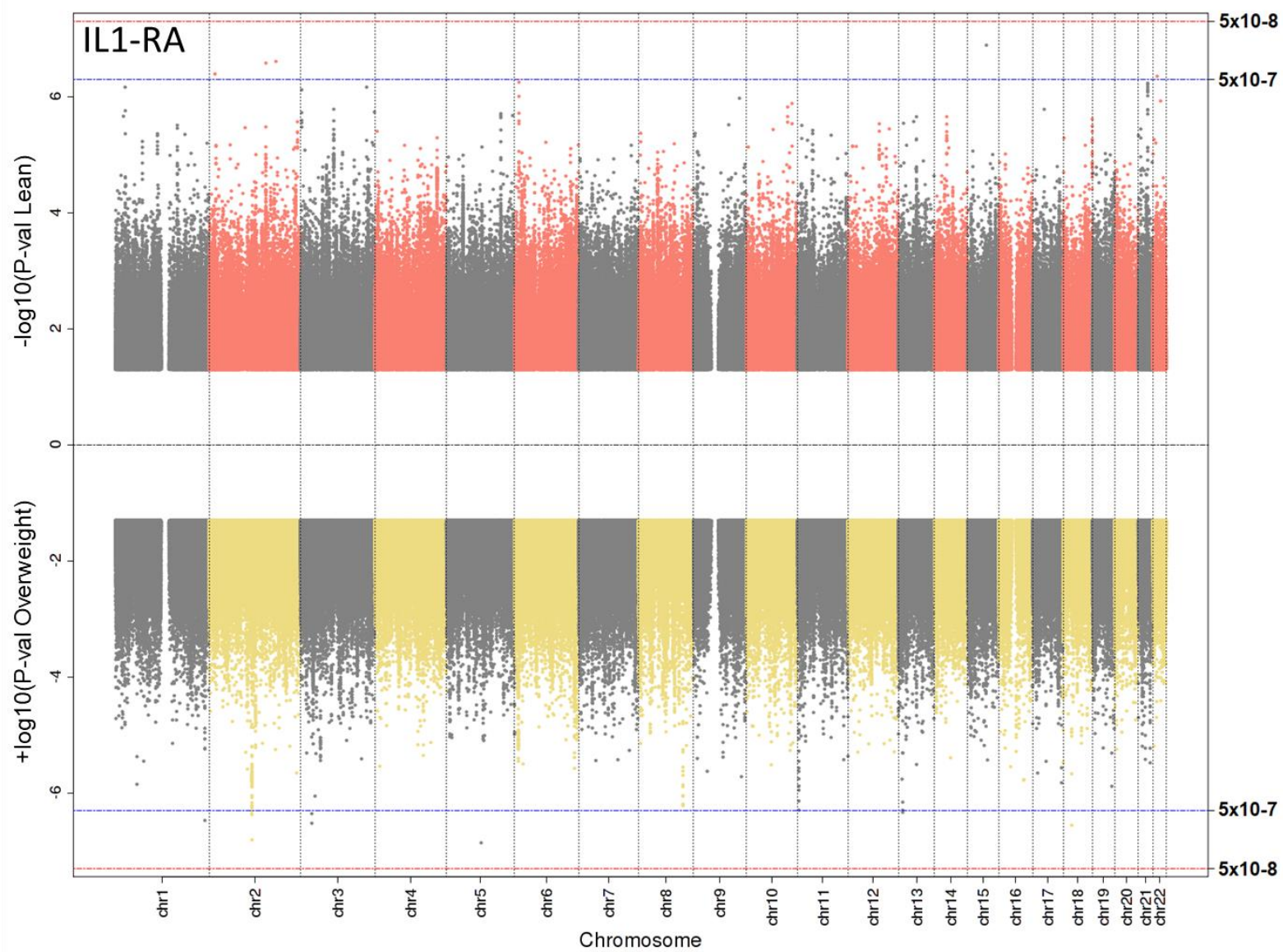


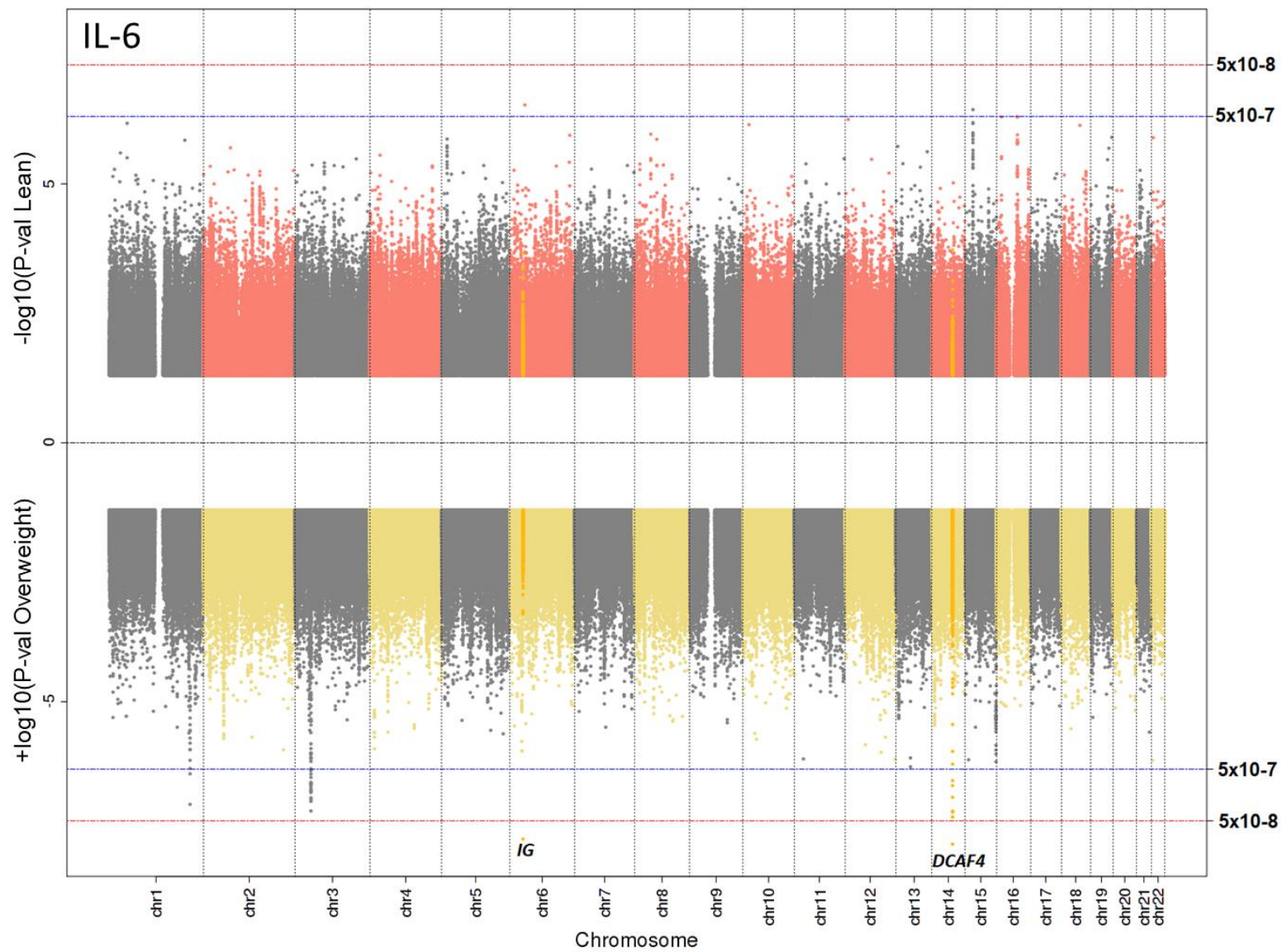


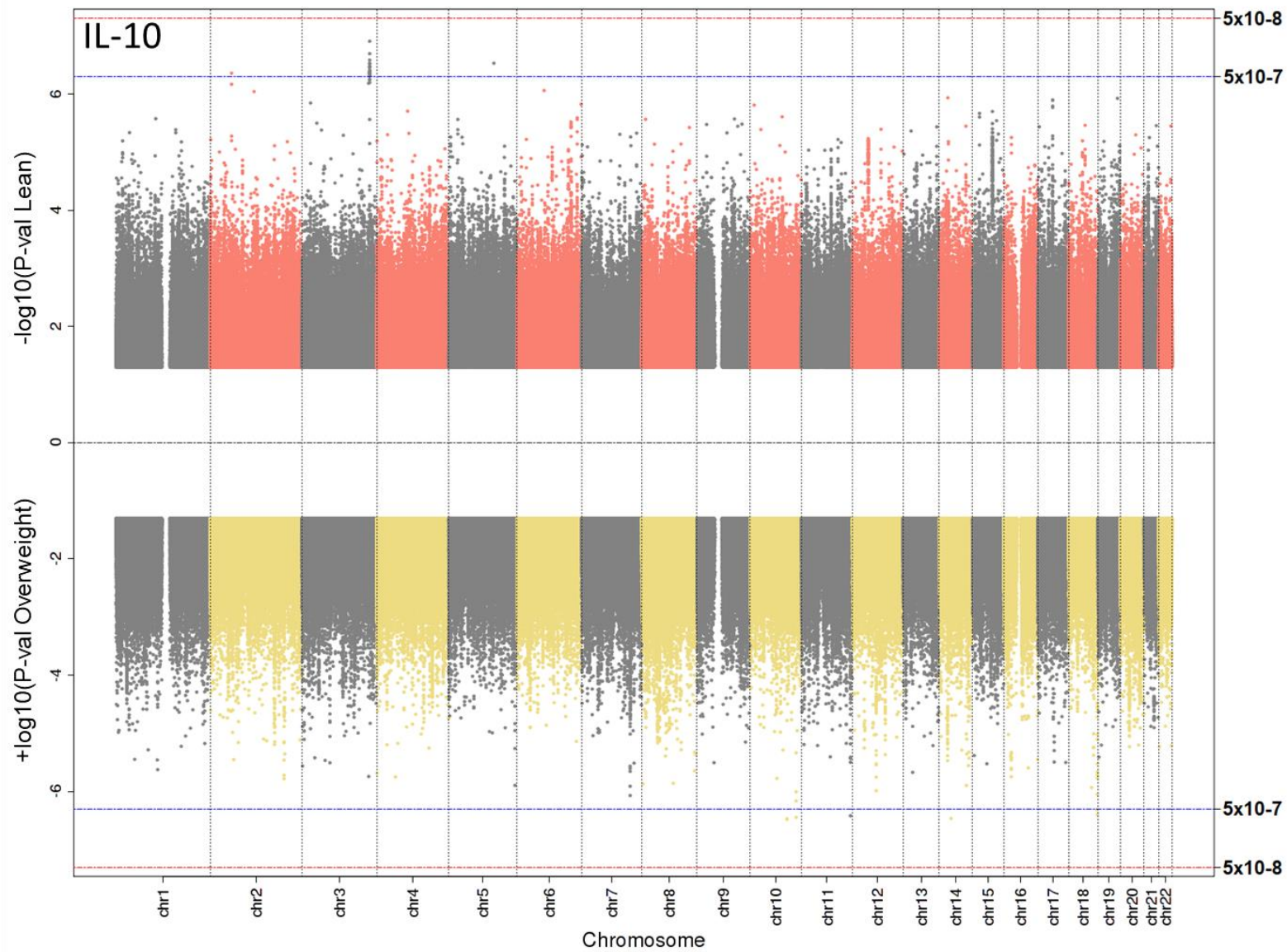




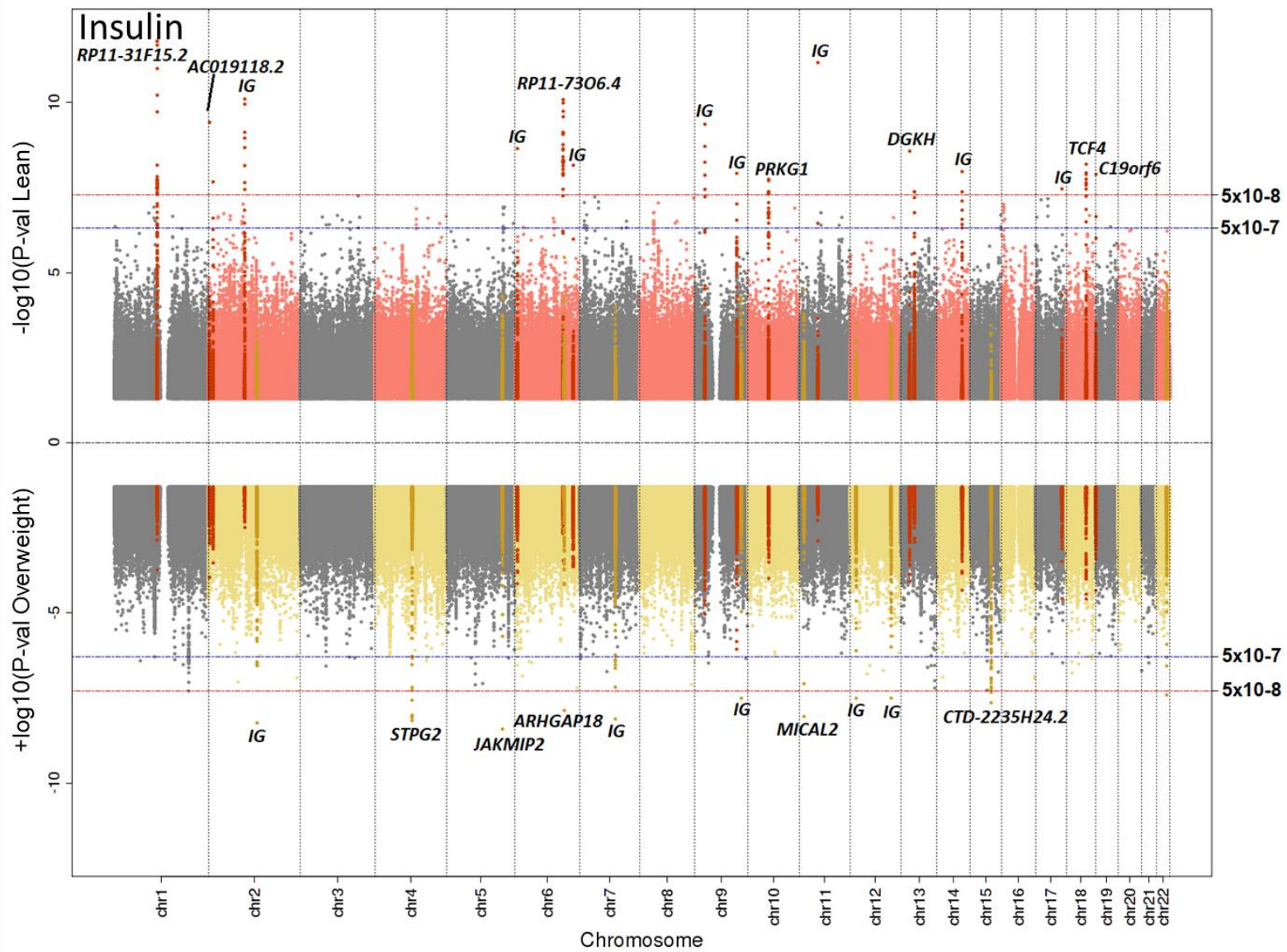


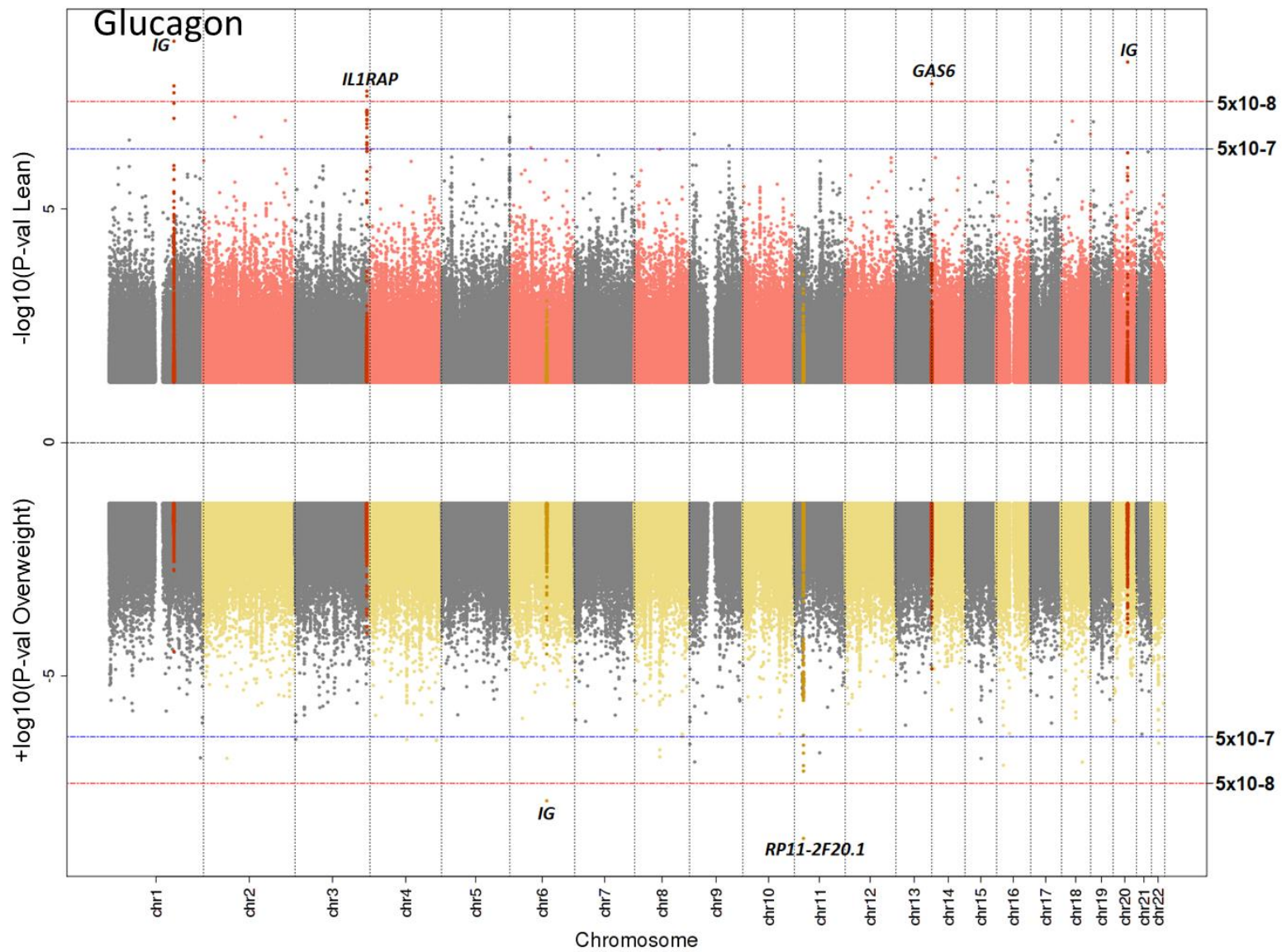


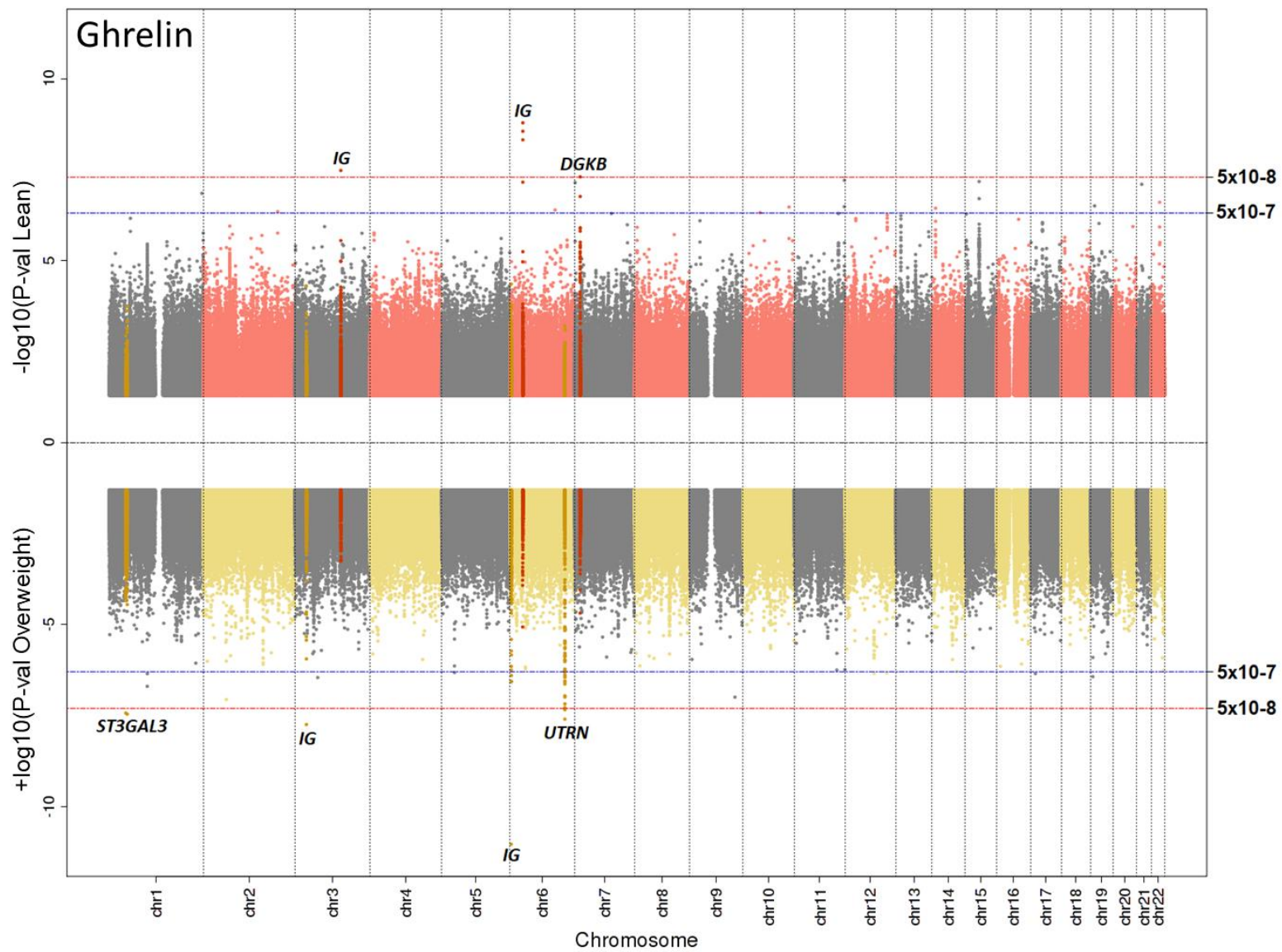




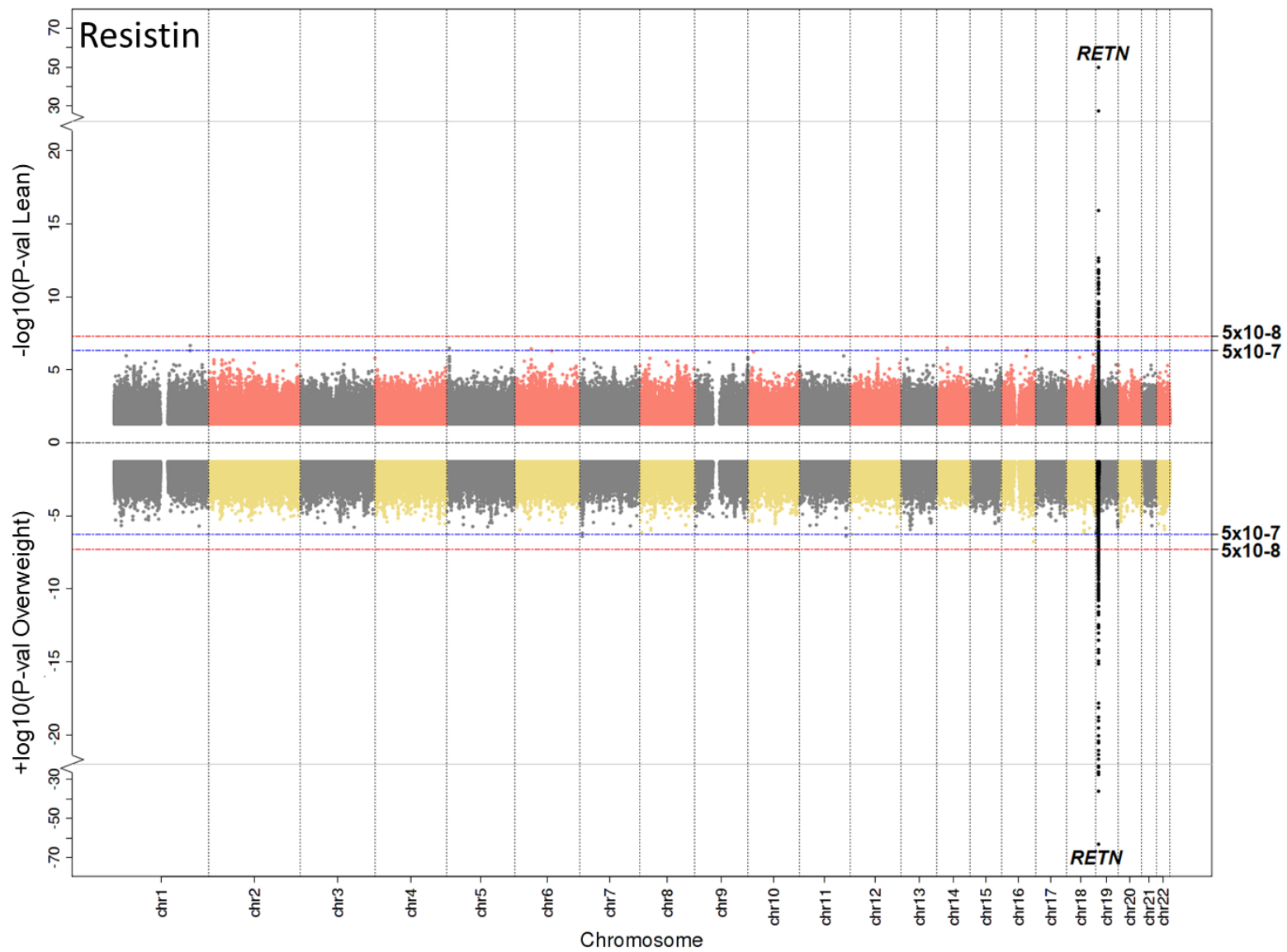


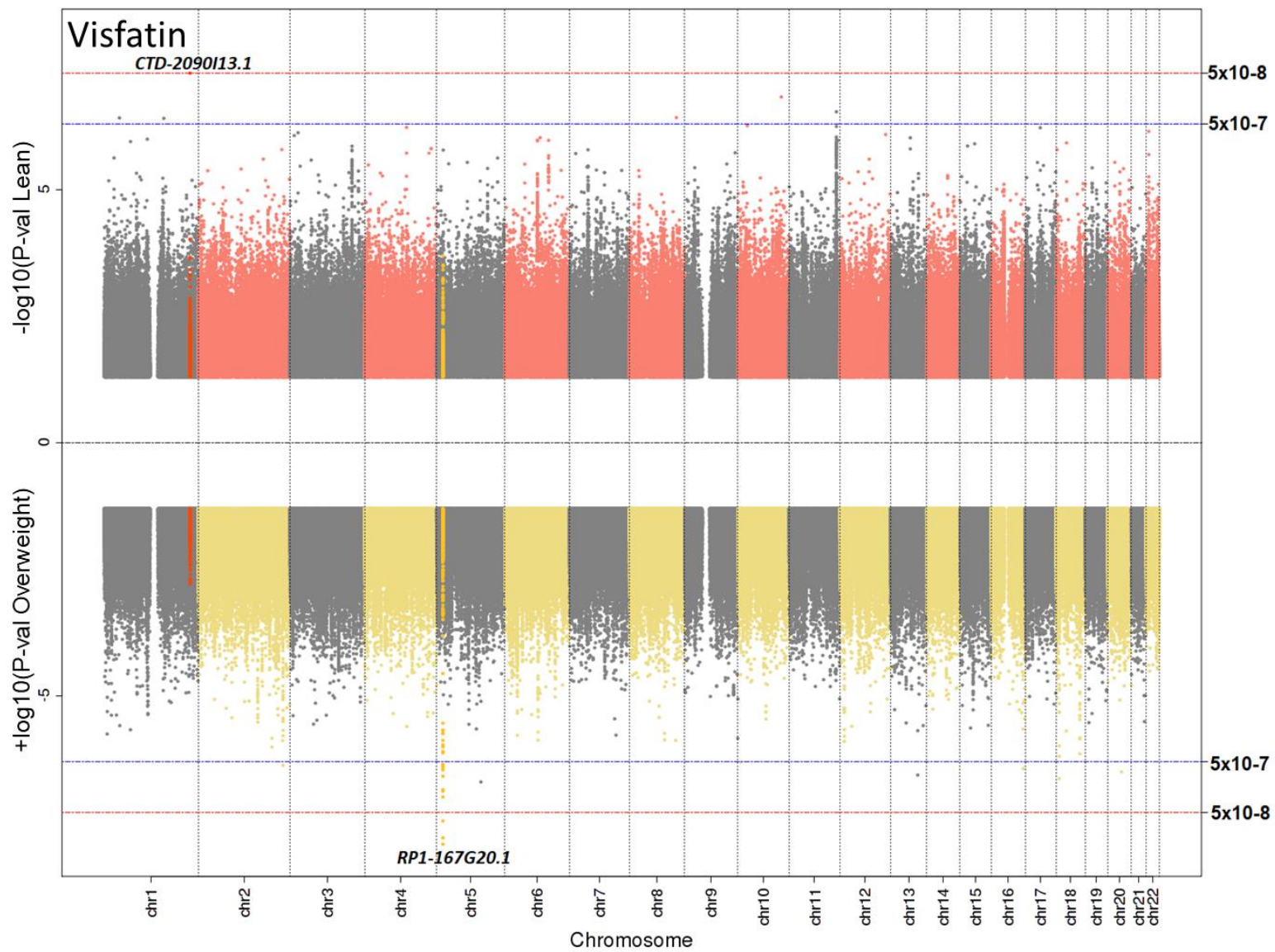














**Fig S6:** Miami plots for T2D status-stratified analyses for all 13 obesity- and diabetes-related cytokines and hormones.

IG = Intergenic. Loci in green had a  $P$ -value of  $<5 \times 10^{-8}$  in T2D controls and loci in purple had a  $P$ -value of  $<5 \times 10^{-8}$  in T2D cases.

